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How Young Jobber Profits from 'Old' Ideas
Midwest Marketer Makes Home Heating Pay
What to Consider About Truck Ownership

National Petroleum News

How Stage II Could Affect Your Market

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Established in 1909

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Editor's Viewpoint

The first editorial is the toughest for a new Editor because in relatively limited space he has to introduce himself to thousands of readers who knew and respected his predecessor.

Marvin Reid, now Editor Emeritus of *NPN*, made this a little easier for me in his last editorial by announcing his retirement and presenting me as the new Editor-in-Chief of the magazine. But it's really up to me to give you some insight into the person who is moving into Marvin's position and how it will affect *NPN*. The shortest, most straight forward way to do that is to simply say that my attitude toward *NPN* and the readers it serves is virtually identical to Marvin's. And this is the key factor, because the Editor of a successful publication is to a great extent bound by the traditional standards and purpose of that publication.

Marvin Reid spent more than 30 years with *NPN*, six of them as its Editor-in-Chief. He made significant contributions to the magazine and became, with good reason, a highly regarded figure in the industry. His knowledge and insight—as well as his own personality—had its effect on *NPN* and enhanced its reputation. He understood you and your businesses and the highly competitive market in which you operate. He respected you and liked you. All of which was reflected in this magazine.

Now, it's my turn. . .

. . .and I have some very large shoes to fill. Marvin and I are different men, so there may be some differences in this magazine. But you can make book that there will be a continuity of purpose and that I am as firmly committed as Marvin was to maintaining the editorial excellence and integrity characteristic of *NPN* since it was first published in 1909. There is a very simple test by which the Editors of *NPN* have determined what information will appear in the magazine: Does it serve our readers? If it does, we print it. If not, we don't. It's a formula I will continue to use.

I also intend to become involved with this industry and the people in it, gain greater understanding of issues and trends and how they will affect your businesses. Judging from my experience and the people I've met since joining *NPN* nine months ago, this will be one of the more enjoyable aspects of the job. In addition, I urge you to contact me with your opinions about what you read in *NPN* and to express your feelings about developments in the industry. Write or call and ask for me personally.

All of this, as with Marvin, will be reflected in *NPN*. And I hope that when my successor writes his first editorial, he too will feel he has some very large shoes to fill.

— Frank M. Victoria

National Petroleum News (NPN) (ISSN 0149-5267) is published monthly by Hunter Publishing Co., Inc., 950 Lee Street, Des Plaines, Illinois 60016. (312) 296-0770.

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience-store items. Position, company and segment of industry must be indicated on subscription orders.

Basic **subscription rates** for one year to individuals in the petroleum marketing industry are: U.S. $54; Canada $63 (U.S. $); Foreign surface mail $69 (U.S. $); Foreign airmail $104 (U.S. $). Non-industry personnel rates for one year are: U.S. $69; Canada $78 (U.S. $); Foreign surface mail $84 (U.S. $); Foreign airmail $128 (U.S. $). **Single copy price:** U.S. & Canada $8.00 (includes first class postage). Foreign $10.00 (includes airmail postage). **Mid-June Factbook:** U.S. $50; Canada $60; Foreign $70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. **Change of address:** Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (312)296-0770, 9 a.m. to 4 p.m.

Postmasters: Send address changes to NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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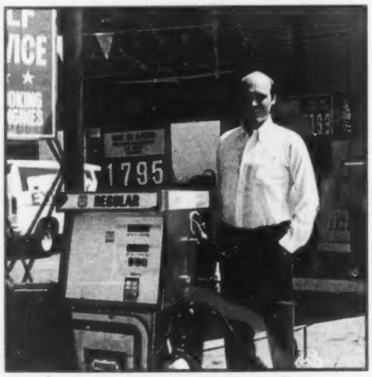
EPA is not pushing Stage II vapor recovery, but St. Louis marketers, and perhaps others, still face local mandates. **Page 36**

WISCONSIN
OIL4U2
JAN • America's Dairyland • 88

Cronin Oil is shooting for 25% of its local home heating oil market with an aggressive promotional program. **Page 56**



Young jobber Richard Jacobs is striking paydirt with older properties and "traditional" methods. **Page 62**

• TRENDS

Improvement Incentives Spread, with New Twists

The trend to jobber station improvement incentives has bandwagoned to the point that suppliers without such programs are the exception. To the list of 14 majors and independents already offering programs [NPN—Jun. p40], three more have climbed on board: Texaco, Marathon, and Getty.

Sun will begin a new image incentive program for DX jobbers in 1988, in addition to its existing plan for all of its jobbers. Some companies, including Fina and Getty, are reported to be going back to the drawing board to work out improvements and refinements.

Of the few dozen companies contacted for this update, only five say they have no station improvement programs: Ashland, Chevron, Kerr-McGee/Triangle, Tenneco, and Sinclair. Sinclair says it is close to coming out with one.

There are unconfirmed reports that at least one company is reconsidering its incentive rebates. But this appears to be an exception.

Texaco, the last of the majors to introduce an image program, came out with a relatively straightforward offer. "It's a very simple program. We like to keep things simple, very clear," says Gene McGraw, director of wholesale marketing.

Jobbers are eligible for 2¢ a gal. on new and razed-rebuilt stations payable over a period of three years. This is paid on up to 150,000 gal. monthly unless headquarters approves a higher limit.

On partial rehabilitations, an incentive of 0.5¢ a gal. is paid on sales increases, up to half of the actual cost. Upgrades must conform to Texaco's System 2000 standards. Jobbers must meet two conditions: They must purchase one-twelfth of their contract minimums per month, and they must be on electronic funds transfer (EFT). The latter requirement is not a hook to get jobbers on EFT, says a compay spokesman, because 98% are on it already. Rather is meant to facilitate computer handling of the program.

Marathon sets up an image improvement fund in which a jobber can earn credits by meeting certain sales goals: 0.25c a gal. on light product sales 75-100% of historic volume, which is sales during the year-earlier month; 1c a gal. on sales over 100%; 10¢ a gal. on oil and grease sales over historic volume; and 5% on dollars of TBA purchases over historic volume.

In January and February of the year following the year the credits are earned, a jobber submits invoices for reimbursement up to the amount of credits earned. Credits are not carried over to the following year.

Getty describes its station enhancement program as without frills and not intended to compete with the majors. A rebate of 0.25¢ a gal. is tied in with coop advertising: the money can be spent on station improvements up to $1,000 on each station, or coop advertising and merchandising, in any combination. The company picks up 60% of the coop expenditures.

Getty was already planning revisions. Mike Convey, wholesale manager, said the company wanted to make its program more like others.

Sun's new program for DX jobbers in the midcontinent is aimed at achieving conversion to the Sunoco brand. It provides 2¢ a gal. for two years for converting stations, up to a maximum of $19,500. The schedule is to convert in Tulsa and Oklahoma City in 1988 and in Iowa, Missouri, and rural Oklahoma in 1989.

To qualify, a station must sell more than 15,000 gal. a month, sell 93.5-octane "Ultra" gasoline, and agree to install blending pumps on a specified schedule. The schedule is two stations a year, or 20% of stations, whichever is greater, over five-years.

Fina said it was coming out with a new program. Earlier, it provided 0.5¢ a gal. on 80% of contract purchases, another 0.5¢ on 80-120%.

The objective of these programs remains the same and is not likely to go away soon: to improve branded station appearance. As long as the need persists, it is likely companies will continue the programs, even if it means, in some cases, reducing the generosity of terms. *— Mark Emond*

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

AUGUST	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.004	$0.946	$0.995	$1.139
Regions:				
Northeast	1.028	0.956	0.999	1.153
North Central	1,027	0.986	1.025	1.156
South	0.997	0.927	0.985	1.132
West	0.975	0.928	0.974	1.115

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	10/2/87	10/3/86
Gasoline (total)	228,849	228,549
Gasoline (unleaded)*	134,810	121,091
Jet Kerosine	43,233	42,962
Distillates	128,586	150,945
Residual	45,174	43,610

**Included in gasoline total.*
Source: American Petroleum Institute.

NPN

NATIONAL PETROLEUM NEWS NOVEMBER 1987

Survey Shows Marketers Provide Generous Compensation, Benefits

When it released the results of its detailed "Marketer Benefits and Compensation Survey" late last month, the Petroleum Marketers Assn. of America was clearly gunning for what it sees as the growing number of "mandated benefits proposals circulating in Congress."

PMAA's main target is what it considers mandatory benefit legislation that is "unnecessary and quite possibly counterproductive." However, the association's rather lengthy study contains much more than anti-legislative ammunition. It also offers a rare and sometimes fascinating glimpse at the "people" side of marketer operations—particularly at the total compensation and benefit package jobbers typically provide for employees.

Among the highlights of the survey:

- Respondents reported employing an average of 68 individuals—53 full-time and 15 part-time.
- Average annual payroll of survey respondents amounted to $874,683, excluding bonuses and cash incentives.
- More than 97% of jobbers offer health insurance to employees and 84% also provide dependent coverage.
- Many marketers offer a wide array of employee benefits other than health coverage. These include paid vacation, paid sick leave, life insurance, pension plans, disability coverage and parental leave.
- Marketers spend an average of $138,652 per year on employee benefits, or $3,511 per eligible employee.
- Benefit costs represent 16.8% of the average marketers payroll.

PMAA breaks out its survey responses by company size according to the employee count, as follows: Small—1-15 employees (average 9); Medium—16-100 (average 41); Large—100 plus (average 285).

The survey shows that the largest companies employ the highest percentage of part-time workers (24%). Middle-size firms have 19% part-time employees and small jobbers only 14%. One striking figure: only 4% of the small firm employees earn minimum wages, while 16% of large marketers have minimum wage workers. PMAA offers the analysis that smaller firms are stable, family-oriented businesses, with each employee doing multiple tasks, while larger firms with multiple outlets tend to be more labor intensive with a larger proportion of lower-wage workers such as cashiers and pump attendants.

Payroll data is summarized in the adjacent tables. PMAA points out that wage and salary data does not include bonuses and other nonsalary compensation, which in the executive ranks, at least, can be a big chunk of the overall compensation package.

(Continued on Page 32)

Average Number of Employees

	Total Companies	1-15 Employees	16-100 Employees	101 + Employees
Avg. Total Employees	68.4	9.3	41.1	285.5
Full-Time	53.4 78%	8.0 86%	33.3 81%	217.4 76%
Part-Time	15.0 22%	1.3 14%	7.8 19%	68.1 24%

Employers Providing Health Insurance

	Total Companies	1-15 Employees	16-100 Employees	101 + Employees
Employee Coverage	97.1	97.4	96.0	100.0
Dependent Coverage	84.2	85.5	82.3	87.7

Health Insurance Plans

	Total Companies	1-15 Employees	16-100 Employees	101 + Employees
		Costs ($)		
Individual Deductible	$185	$206	$176	$167
Family Deductible	256	238	261	271
Monthly Premium Per Individual	83	91	84	69
Monthly Premium Per Family	164	175	162	154
		Employer Contribution (%)		
Payment for Individual Premium	88.5	92.6	88.6	81.2
Payment for Family Premium	64.7	79.8	59.3	54.9

Employers Offering Selected Benefits

Type of Benefit	Total Companies	1-15 Employees	16-100 Employees	101 + Employees
Paid Vacation	100.0%	100.0%	100.0%	100.0%
Paid Sick Leave	81.7	72.7	85.8	86.0
Life Insurance	81.5	76.9	82.3	89.5
Pension Plan	64.5	56.4	66.7	71.9
Disability	35.6	28.7	32.8	57.9
Parental Leave	68.6	62.1	79.2	85.7

Source: Petroleum Marketers Assn. of America

Compensation, Benefits Continued. . .

According to the study, marketers pay most of the employee's monthly health insurance premium costs—an average of 89% of the individual premium and 65% of the family premium. Smaller marketers, lacking access to the more beneficial rates, pay a higher portion on these premiums as well as higher rates overall.

Eligibility of benefits is determined in a variety of ways, survey respondents report, with the most common being full-time employment status and tenure with the company.

Also, PMAA points out, miscellaneous employee benefits that were not covered in the survey—profit sharing, bonuses, education refunds and paid rest periods, for example—may account for another 5% to 10% of payroll. Add to this the already mandated benefits such as FICA and unemployment compensation and marketer benefits are likely in excess of 30% and may range as high as 45% or 50%, according to PMAA.

"Despite the overall favorable response from marketers on voluntary health insurance benefits, the reaction to federally mandated health benefits was vehement," says the association. Asked to comment on the impact of requiring employers to provide health coverage to all employees working 17.5 hours per week or more, over 65% of the respondents said it would have a negative or severely negative impact on their businesses. Many marketers indicated a doubling or tripling of costs that could simply not be absorbed.

One respondent wrote: "Small outfits like ours cannot stand the cost pressures of these mandated increases." Said another: "Approximately 40 employees at $130 per month at $60,000 per year, was more than our net profit last year."

Marketers were also worried about the increased administrative costs, some calling the clerical time and paperwork involved "a nightmare."

Many respondents told PMAA that mandated health benefits would force them to change employment practices, especially at the expense of the lower-wage employees the benefits were designed to help. They foresaw reduced part-time employment; staff reductions, wage cuts and elimination of some other benefits.

PMAA's data was based on 373 useable responses from a survey mailing to 1,300 marketers nationwide.

"The results of the survey confirm. . .that petroleum marketers voluntarily offer a very generous compensation package to their employees," PMAA concluded. "Additional government intervention in marketers' private business decisions remains unwelcome and unwarranted."

Average Annual Salaries of Full-Time Employees

Employment Category	Total Companies	1-15 Employees	16-100 Employees	101+ Employees
Administrative				
CEO	73,153	50,715	77,722	107,240
Finance	29,521	24,084	30,222	35,484
Clerical	15,003	15,351	15,183	13,742
Other Office	16,129	16,2[illegible]	16,284	15,056
Transportation				
Transport Driver	23,9[illegible]	22,625	23,364	27,947
Tankwagon Driver	18,103	18,780	18,853	17,987
Mechanic	20,[illegible]33	21,641	19,814	20,249
Service Station				
Manager	16,844	14,715	17,290	17,319
Pump Attendant	9,158	9,335	9,461	8,288
C-Store				
Cashier	8,455	9,527	8,405	8,319
C-Store Manager	15,001	13,213	14,664	16,303
Other Store Personnel	9,3[illegible]	—	10,126	8,180
Heating Oil				
Service Manager	30,07[illegible]	30,029	28,817	30,897
Service Maintenance	22,[illegible]	21,262	22,776	23,052
Sales Personnel	2[illegible]61	23,629	27,729	25,170

Five or fewer responses [illegible]

Source: PMAA

Congress Cautioned Against Stage II

Congress should soundly reject proposals requiring Stage II controls, according to testimony given by the PMAA to a House subcommittee on health and the environment.

The subcommittee is considering amendments to the Clear Air Act, including mandatory Stage II controls for nonattainment areas and nationwide requirements for gasoline-alcohol blends.

Stage II is not a cost-effective method of reducing hydrocarbon emissions, as EPA and industry data demonstrates, nor can it be implemented quickly, said Eric D. Kroesche, PMAA regional vice president.

Currently, only stations in California and Washington, D.C. are required to have Stage II equipment.

Of particular concern to PMAA is a proposal by Rep. Henry Waxman (D-Calif.) that would require Stage II controls as a cost-effective interim measure until new cars are equipped with onboard canisters.

Mandatory Stage II controls could force marketers to spend from $15,000 to $20,000 per location for equipment that will become unnecessary when onboard canisters are fully in place, Kroesche said.

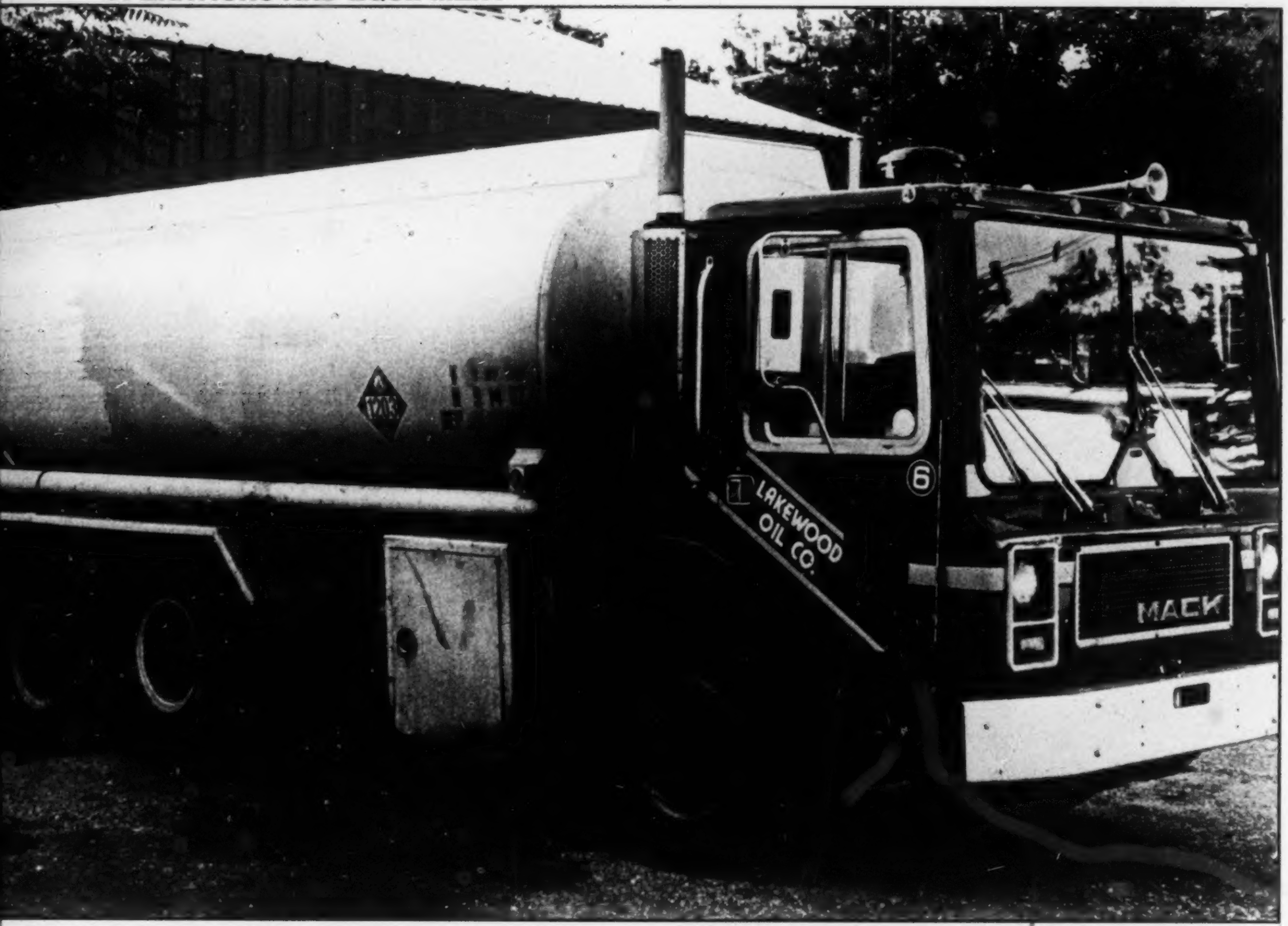
In addition, consumer acceptance of Stage II systems has been poor, with many motorists complaining that equipment is unmanageable and frequently spills gasoline on their clothing and cars, Kroesche added.

He pointed out a Greater Washington/Maryland Service Station Assn. consumer survey showed that 68% of the respondents said they would purchase fuel outside of Washington, D.C. to avoid using Stage II equipment.

Due to misuse and abuse, Kroesche stated, extensive enforcement of Stage II equipment must be maintained. PMAA questions whether state and local governments will be willing or able to shoulder the funding for such a program, he stated.

The national organization also encouraged the development of alternative fuels, provided they can be marketed through the existing distribution network and do not give refiners an unfair advantage over independent marketers, Kroesche said.

He added that consumer choice should not be dictated by the government mandating the use of certain fuels nor by giving tax subsidies which allow alternative fuels a competitive advantage over other fuels in the market.



High costs and tougher government regs are forcing some smaller marketers to consider contract hauling as an alternative to truck ownership. Others, however, have found ways to still make money operating their own vehicles.

The Economics of Truck Ownership: Can Jobbers Still Make Money?

What with skyrocketing insurance rates, tougher safety rules and vanishing supplier hauling allowances, it would seem that most jobbers would be forgiven, if not legally absolved, if they drove their transport rigs off the nearest cliff.

Amazingly, though, many jobbers continue to make money hauling petroleum products with their own trucks, despite the headaches. One big Southwestern marketer, Truman Arnold Companies, Texarkana, Texas, reportedly nets close to a half-cent per gal. on gasoline deliveries.

"Our petroleum transport operation is currently one of the most profitable in the company," says Frank Caudle, Arnold's manager of transportation. The key to a successful trucking operation, Caudle explains, is tight cost controls, regular maintenance, driver training and motivation and, perhaps most important of all, full utilization of equipment.

By Donald M. Smith
Senior Editor

A recent jobber survey conducted by the Petroleum Marketers Assn. of America (PMAA) quoted many marketers as stating that they must use their trucks around the clock, six to seven days a week, to make the ownership of their own trucks economical.

On the other hand, quite a few jobbers—mostly smaller operators with one to four trucks—are reported to be selling off their transports and switching to common carriers to haul their products, or at least are planning to do so.

"The economics of trucking are forcing many small and average size jobbers to look at contract hauling as a viable alternative to owning and operating their own vehicles," says Rogers Clark, president of Sampson-Bladen Oil Co., Inc., a 30-million gal. per year marketer based in Clinton, N.C. In today's market, he says, a jobber usually needs large volumes to justify an in-house fleet.

An exception to this, Clark notes, are those smaller operators who are able to sell their products on a freight-plus basis. But, he says, "too many jobbers don't know what their transport costs really are. And, when they do break out those expenses, they can see they're looking at negative costs."

Clark, who also serves as chairman of PMAA's Transportation Task Force, says smaller marketers are moving to contract delivery because of the higher costs of equipment replacement ($80,000 to

$100,000 per transport), maintenance, driver compensation and liability. This latter cost, he says, is "out of sight."

Ed Purcell of Service Oil Co., Laurinburg, N.C. agrees that liability insurance has become prohibitive for many jobbers. "We've seen our liabilty rates jump about 25% per year over the past several years," he says.

Purcell owns two 8,500 gal. transports but contracts out the rest of his product delivery to the 43 stations his company serves. He, too, concurs that a marketer should have large volumes to justify a self-owned fleet. "You need 10 or more transports or trailers to spread out the liability and other costs," he says.

Service Oil Co. currently receives a 2¢ a gal. freight allowance from its supplier (Exxon), but that will be phased out by January of 1988, Purcell says. "The 2¢ allowance and our costs of delivery are just about a wash," he reports.

Rogers Clark and other veteran fleet observers concede that jobber-owned trucks have value other than straight monetary considerations. Convenience and promotion are the most frequently cited benefits. The "rolling advertisement" factor, for example, appeals to many marketers. The ability to make several drops at small accounts with one load is another convenience many jobbers appreciate. "It allows a jobber to use a transport as a tankwagon," Clark says.

Sampson-Bladen, Clark's firm, has been using common carriers since 1939. Except that the carrier outfit is also one of four subsidiaries operated by Sampson-Bladen. The carrier operates 11 transports serving 120 company locations, including 12 convenience stores. The carrier also does some contract hauling for other marketers, Clark says.

Getting an Edge

Memphis, Tenn. jobber Jack Malone, Malone Oil Co., firmly believes that the economics of truck ownership dictates around-the-clock operation and professional management practice.

"The 'status symbol' or convenience factors may be important to some," he says, "but we run our fleet as a separate profit center with its own P&L, expenses, etc., all tracked by computer."

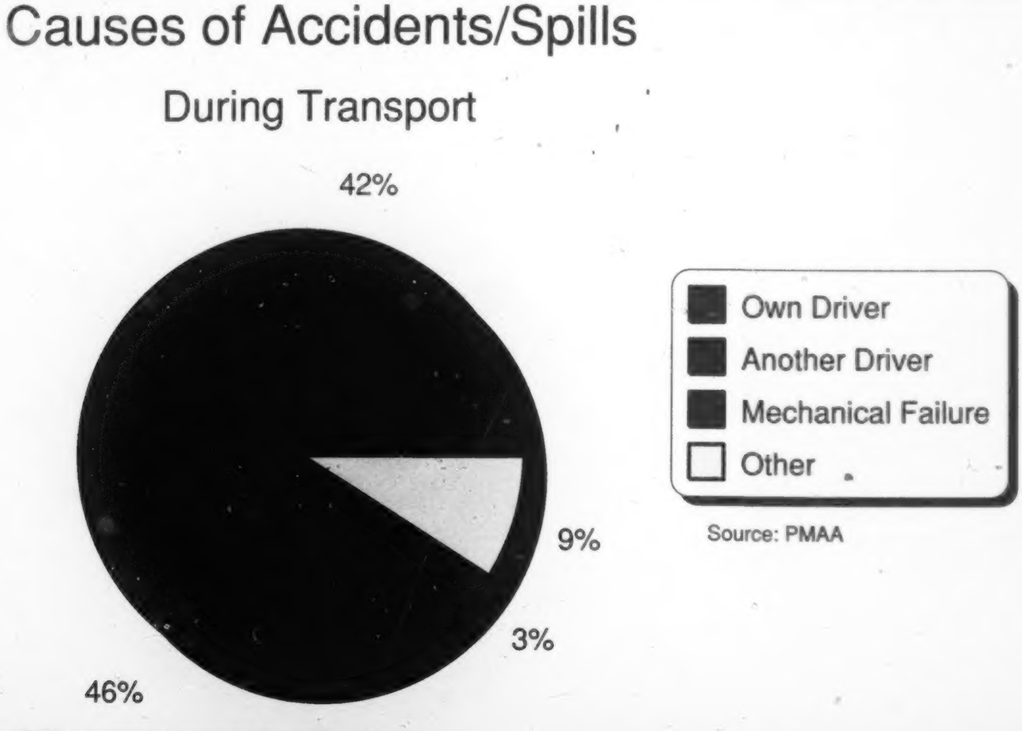
Malone operates four trailers between 8,500 and 9,200 gal. capacity, including two new lower-mileage units, to serve about 45 outlets. The company also uses a contract hauler to handle a substantial amount of bid business it has done.

"Owning our own trucks also gives us a big edge in taking advantage of price movements," this veteran marketer explains. "Let's say there's a price increase of a penny or two per gallon scheduled to take effect at midnight and we get the report at 5:00 p.m. Our drivers can jump right on it, get out to the loading rack, start making short load deliveries in town or store it in our bulk plant as necessary.

"At times, our four trucks have picked up as many as 12 loads before an upward price move," Malone says. "At 1¢ gal., that's a pretty big savings."

Getting qualified drivers is a top priority for Malone. "It's not easy, today," he says. "But we've learned to be more efficient and make our drivers more productive by paying them by the load, rather than straight salary. This gives them the incentive to move more product and discourages time-wasting habits—

As a result of its recent study, PMAA contested government allegations that gasoline truck accident rates were dangerously high, pointing out that in 1985, there was only one accident or spill per 48,000 trips. PMAA's data of accident/spill causes is shown below.


Causes of Accidents/Spills

During Transport

Source: PMAA

One ownership advantage; getting the jump on price moves

gabbing too long with a customer, for example."

Malone's trucks run an average of 12 to 14 hours per day. He prefers to schedule off-hour operation to avoid rush-hour traffic and jam-ups at the stations his trucks serve.

Rolling Profit Centers

Truman Arnold and his transportation chief, Frank Caudle, prefer ownership to leasing or contract hauling because (1) it's highly profitable, and (2) it gives them better control of their fleet operation.

Currently, the company has 12 transports in the 9,000 gal. capacity range, plus two tankwagons. All are company owned except for one leased truck. "Our controller tells us leasing is as good as buying," Caudle comments.

In total, Arnold owns about 100 vehicles, including box trucks, vans, pickups, etc., for such tasks as road service and delivery to the company's Roadrunner C-store network.

Caudle, who is somewhat of a celebrity in fleet circles because of his (and his boss's) willingness to share detailed operating data with other marketers, says that with the drying up of hauling allowances some time back, the company established its own freight rate based on the lowest common carrier rate in effect on May 1, 1985.

Based on this rate, Arnold charges 1.03¢ a gal. freight on gasoline and 1.08¢ on diesel in the 20-mile range. At 60 miles, which is about average according to Caudle, the rate goes to 1.52¢ a gal. for gasoline and 1.75¢ for diesel.

"The trucks have been making money, no question about it," he says. "We've had an average net return over cost of 25% to 27%. Last year, the average net profit was 28.4%; this year it's been running at 26.2%. On gasoline, we're making about 1/2¢ a gal. margin."

One fairly typical transport, Caudle reports, covered 15,000 miles in a recent month, grossed $21,000, cost $14,700 to operate, including $6,000 in driver salaries and $3,000 in fuel, leaving a profit of about $6,300.

"We figure we need at least $15,000 a month from a truck to make money," Caudle says. "We've been averaging between $17,000 and $21,000.

"To keep our fleet profitable, we expect a truck to haul at least 1-million gal. of product per month," he says. "This puts a premium on driver motivation, maintenance, reduced downtime and, obviously, the ability to keep the equipment fully utilized, rolling around the clock." The trucks operate about 18-20 hours a day.

A full-service maintenance facility in Texarkana, including a paint shop, keeps Arnold's vehicles in tip top shape. In distant markets such as Denver, service work is farmed out. Drivers, too, are expected to take a paternal interest in the condition of their trucks and even perform light maintenance tasks.

To keep motivation at a high level, Caudle reports that drivers are paid the equivalent of 28% of the revenue produced by a truck, plus an "attitude" bonus at the end of the year. "We go for the best people," he says.

Arnold budgets for transport replacements about every four years, a more frequent replacement schedule than is typical for the industry. "However, we run our equipment an average of close to 200,000 miles per year," Caudle says. "And when you get up into 750,000-800,000 mile range on a transport, you run the risk of a lot of wear and tear and expensive downtime."

The company usually gets between $10,000 and $12,000 on a trade-in, perhaps a little below the book value on a four-year old vehicle, but pretty good, Caudle figures, for a truck that is pushing towards a million miles of road service.

Like many marketers, Arnold shops for lighter and more efficient trucks and trailers, but not at the sacrifice of capacity or performance.

Jobber Truck Profile

Several months ago, PMAA conducted what it called its "most extensive transportation survey" of its jobber membership, mainly in response to the proliferation of new Department of Transportation and Congressional truck regulatory and safety proposals.

Survey Sheds Light On Fleet Operations

By a wide margin, oil marketers still haul petroleum products in their own vehicles, indicating that company-owned and/or leased trucks continue to be the dominant chararistic of petroleum transportation operations.

According to a new study conducted by the publishers of National Petroleum News, slightly more than three quarters (75.1%) of all product trucked by marketers in the past year was in their own equipment. A shade under one quarter (24.9%) of the gallonage was hauled by common carrier.

The NPN study shows that hauling by in-house equipment is most prevalent in Sunbelt states, with 83.4% of product in the South and 81.9% in the West delivered in marketer owned or leased equipment. The greatest percentage of contract hauling (28.1%) is done in the Midwest.

Other key data from the survey breaks out the average number and types of equipment operated by marketers and the number of those trucks which are either owned or leased.

The study reveals that the average marketer owns 5.1 tank trucks, 3.4 tractors, 3.7 tank trailers, 1.8 box trailers, 1.6 box trucks, and 3.9 pick-ups/vans. The average marketer also leases 1.9 tank trucks, 2.9 tractors, 2 tank trailers, 4 box trailers, 1 box truck and 2.7 pick-ups/vans.

Marketers expect a lot of life out of their equipment. The average truck replacement schedule, according to the NPN survey, is 9 years and 221.000 miles for tank trucks, 6.6 years and 620,000 miles for tractors, 10.8 years for trailers, 12.2 years for box trailers, 7.6 years for platform trucks and 5.2 years for pick-ups and vans. However, it should be noted that over half of the respondents had no established vehicle replacement schedule for their fleets.

Almost two thirds of the respondents (65.4%) employ full-time service mechanics at their locations.

Note: Based on the number of responses—173 petroleum fleet operators—to the NPN truck survey, there is a margin of error of plus or minus 7.4 percentage points at the 95 degree level of confidence. This is to say, if an identical survey were conducted to the same universe there is a 95% chance that the answers received would range from 7.4 less to 7.4 more percentage points than those received in this survey.

Full utilization of marketer-owned vehicles, sometimes around the clock, is required to keep a fleet operating profitably.

The survey showed that the average marketer:

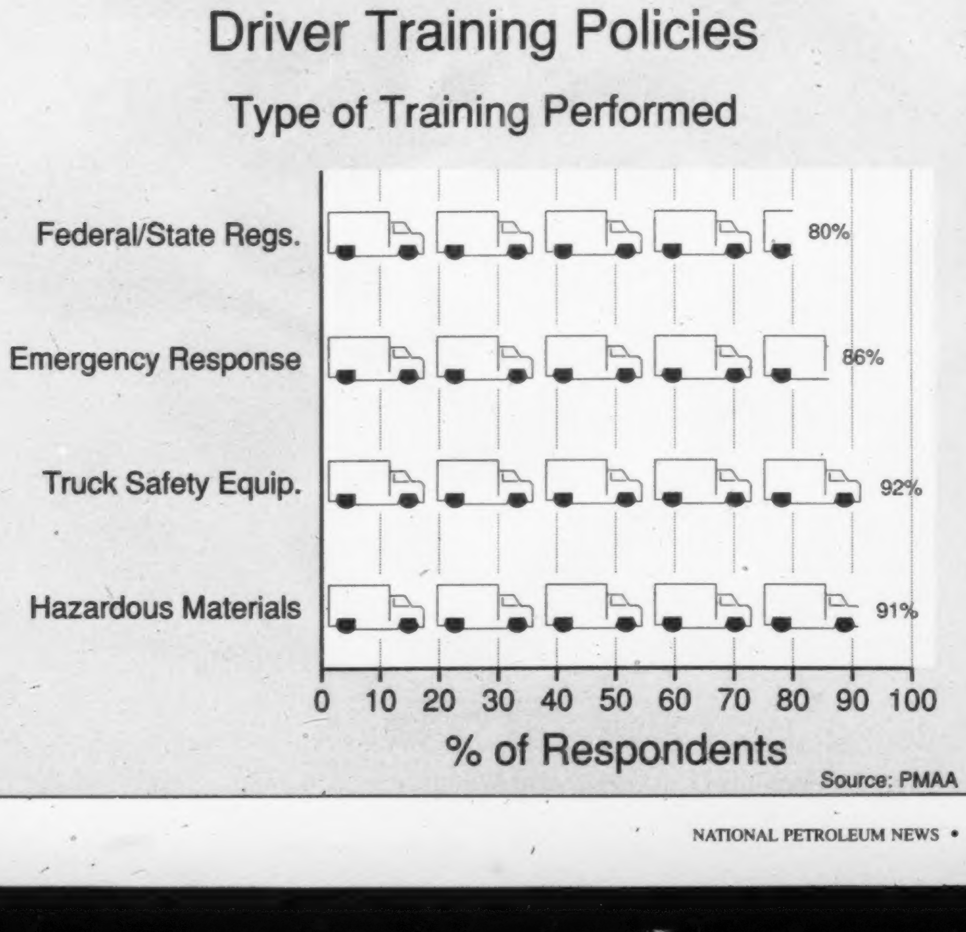
- Owns 6.3 petroleum transport trucks, with an average age per truck of 6.7 years;
- Spends $49,905 per year on fleet maintenance, or an average of $7,707 per vehicle;
- Employs seven drivers, six full-time and one part-time, averaging 39 years of age;
- Has a rigorous driver safety training program.

The PMAA study revealed that most marketers still own and operate their own trucks, with only 15% relying exclusive on common carriers. Twelve percent also operate as common carries to supplement company income and improve operating efficiency.

According to the survey, independepent marketers as a group owned 30,850 tankwagons (average 23,3ll gal. loads per truck) and 14,278 transports (average 8,610 gal. carried). The typical transport makes 3.6 trips per day and travels a total of 109 miles per trip. Tankwagons average 4.5 trips for a total of 36 miles per trip.

As for vehicle maintenance, 14% of the marketers told PMAA they performed all truck maintenance in-house, while 36% performed some repairs with their own mechanics and 81% said they reported using outside service to perform some repairs.

PMAA survey data shows that the vast majority of marketers have safety-related driver training policies in place, with emphasis on truck safety equipment and hazardous materials handling.



Source: PMAA

December 1987

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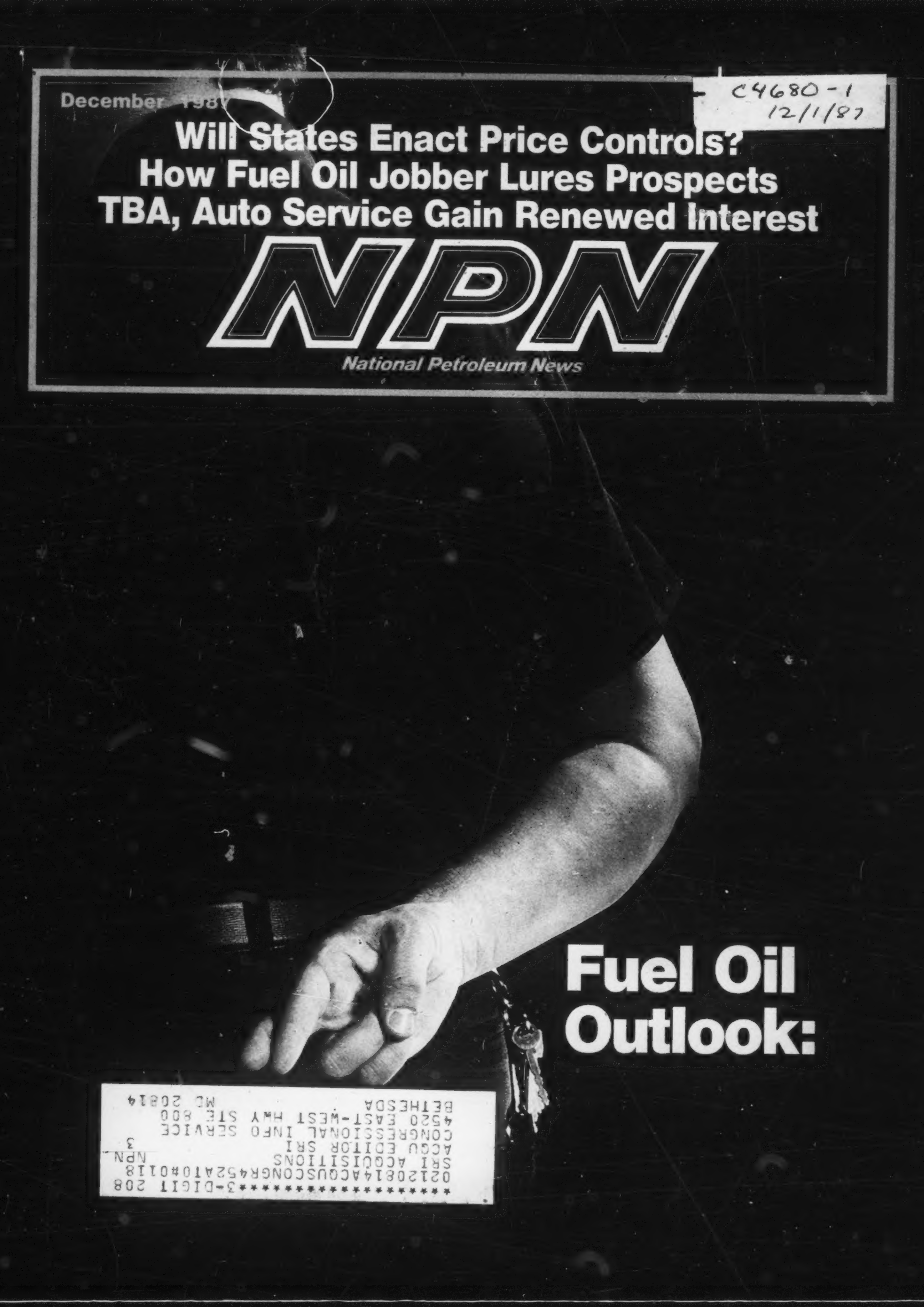
Will States Enact Price Controls?
How Fuel Oil Jobber Lures Prospects
TBA, Auto Service Gain Renewed Interest

NPN

National Petroleum News



Fuel Oil Outlook:

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CONGRESSIONAL INFO SERVICE
4520 EAST-WEST HWY STE 800
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NATIONAL PETROLEUM NEWS
Established in 1909

VOL. 79 NO. 12

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Editor's Viewpoint

Few, if any, marketers or suppliers look back with fond memories on federal price and allocation controls. The last thing most marketers want is the government telling them how to price and distribute product—and with good reason. During the '70s, for instance, price and allocation regulations aggravated and prolonged supply shortages and rising prices. Irony was not uncommon, as with jobbers in some areas being awash in product they were not allowed to sell while jobbers in other areas were crying for supply.

Early in the Reagan administration, controls were abolished. Since then market forces have determined pricing and distribution and, for the most part, everyone from oil companies to marketers to consumers is better off.

But experience is apparently not always the best teacher. The lead story in our news section (see page 27) reports that the U.S. Supreme Court is scheduled to rule on a case which will determine if state governments can, with no federal controls in place, impose their own retail price controls. If the high court permits this, we can expect some states to move quickly to enact them. A dozen states have already filed *amicus curiae* (friend of the court) legal briefs with the Supreme Court which support such controls.

Perhaps, however, it might not be such a bad thing after all. Eventually, the blunder would backfire. States with controls would find marketers and suppliers pulling up stakes and running to states with legislators who don't belong in rubber rooms, and consumers would be screaming about shortages and high prices.

One of the beauties of our federalist system is that by granting the states considerable independent rights, it creates comparisons. If one state operates well while another state is run poorly, the citizens—particularly business owners—of the badly managed state will at some point either change the makeup of their legislature or move to the other state.

It's been said that the best way to get a jackass to obey you is to whack him across his head with a two-by-four, just to get his attention. Maybe the havoc and public outcry in states which opt for controls would be the whack across the heads of the jackass legislators who voted to impose those controls.

—Frank M. Victoria

National Petroleum News (NPN) (ISSN 0149-5267) is published monthly by Hunter Publishing Co., Inc., 950 Lee Street, Des Plaines, Illinois 60016. (312) 296-0770.

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience-store items. Position, company and segment of industry must be indicated on subscription orders.

Basic **subscription rates** for one year to individuals in the petroleum marketing industry are: U.S. $54; Canada $63 (U.S. $); Foreign surface mail $69 (U.S. $); Foreign airmail $104 (U.S. $). Non-industry personnel rates for one year are: U.S. $69; Canada $78 (U.S. $); Foreign surface mail $84 (U.S. $); Foreign airmail $128 (U.S. $). **Single copy price:** U.S. & Canada $8.00 (includes first class postage). Foreign $10.00 (includes airmail postage). **Mid-June Factbook:** U.S. $50; Canada $60, Foreign $70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. **Change of address:** Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (312)296-0770, 9 a.m. to 4 p.m.

Postmasters: Send address changes to NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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Other things being equal, the fuel oil outlook is rather ho-hum. However, a Persian Gulf blowup or more chaos in financial markets could change things dramatically for marketers. **Page 32**

Is there a future in the plumbing business for a fuel oil marketer? Yes, if he's like Spartan Oil Co., a New Jersey firm attracting extra business with home remodelling ads. **Page 40**

Lured by the siren songs of self-serve pumpers, C-stores and the like, oil companies have neglected their "first love"—car service—in recent years. But the pendulum may be swinging back. **Page 42**

Third Quarter Profits Up, But Downstream Declines

Last year's third-quarter and nine-month earnings reports had oil company refining and marketing executives grinning. This year, after nine months, downstream folks are looking at across-the-board declines in both third-quarter and nine-month earnings.

Overall oil company profits, however, continue to recover, if somewhat spottily, following last year's crude price debacle. While nine-month results were mixed compared to 1986, third-quarter earnings were healthier for most companies than last year's third quarter, when prices really hit the skids.

Although investment analysts are urging caution, one firm (Salomon Brothers) is impressed by the oil companies' financial health, noting that the industry "has already made the financial and cost-containment adjustments needed to weather hard times."

Crude Profits Help Third-Quarter Nets

(Add 000,000)

Company	3rd Qtr. 1987	3rd Qtr. 1986	% Chng.	9-Mos. 1987	9-Mos. 1986	% Chng.
Exxon	$1,065.0	$1,055.0	0.9%	$3,285.0	$3,880.0	(7.2)
Mobil	319.0	182.0	75.3	875.0	1,204.0	(27.3)
Texaco	108.0	162.0	(33.3)	355.0	675.0	(47.4)
Chevron	245.0	208.0	17.8	787.0	801.0	(1.7)
Shell	420.0	133.0	215.8	795.0	628.0	26.6
Amoco	412.0	13.0	3069.2	983.0	582.0	68.9
Arco	315.0	102.0	208.8	884.0	551.0	60.4
Tenneco	(47.0)	(246.0)		—	(42.0)	(42.0)
Conoco	127.0	65.0	95.4	283.0	435.0	(34.9)
Phillips	31.0	13.0	(72.6)	2.0	2.7.0	(99.1)
Sun	137.0	69.0	98.6	265.0	315.0	(15.9)
Unocal	28.9	21.8	32.6	151.6	126.6	19.7
Marathon*	125.0	2.0	6150.0	458.0	(8.0)	—
Coastal	11.7	26.7	(56.2)	78.1	4.7	1561.7
Amer. Hess	38.6	41.9	(7.9)	309.4	(227.8)	—
Ashland**	66.0	34.0	94.1	133.0	209.0	(36.4)
Pennzoil	2.8	(10.1)	—	22.2	(1.1)	—
Kerr-McGee	18.8	(325.8)	—	66.3	(300.5)	—
Murphy	8.0	1.0	800.0	18.0	13.0	(38.7)
Am. Petrofina	21.2	5.7	271.9	69.7	(29.6)	—
Southland***	49.7	183.8	(73.0)	122.2	176.9	(30.9)
Crown Central	(3.1)	1.8	—	(21.0)	(9.7)	—

* Operating profits, pre-tax; ** Full year, fiscal ends 9/30; *** Includes Citgo.

Downstream Nets—Not A Domestic Plus Sign in Sight

Exxon						
Domestic	7	106	(93.4)	(5)	468	—
Foreign	53	357	(85.2)	165	1,166	(85.8)
Mobil						
Domestic	51	80	(36.3)	70	300	(76.7)
Foreign	20	243	(91.8)	163	740	(78.0)
Texaco						
Domestic	4	40	(90.0)	(63)	194	—
Foreign	27	172	(84.3)	118	641	(81.6)
Chevron						
Domestic	42	130	(67.7)	(15)	337	—
Foreign	(32)	77	—	13	306	(95.8)
Shell						
Domestic	68	78	(12.8)	132	284	(53.5)
Amoco						
Worldwide	97	133	(27.0)	147	325	(54.8)
Arco						
Domestic	30	94	(68.0)	100	305	(67.2)
Phillips						
Domestic	72	128	(44.0)	147	381	(61.4)
Foreign	(13)	(2)	—	(2)	(13)	—
Sun						
Domestic	21	29	(27.6)	24	208	(88.5)
Foreign	4	8	(50.0)	17	5	240.0
Amer. Hess						
Domestic	2	51	(96.1)	177	(314)	—

• TRENDS

Is Another Oil Price Collapse in the Cards?

That U.S. suppliers and marketers can ill afford another collapse of oil prices as occurred in the first half of 1986 is something just about everybody agrees on. Yet there is not only talk that such a situation may recur this winter or early spring, it's gaining credibility—or, at least, plausibility—which is disheartening because domestic and foreign industries are just beginning to recover from last summer's pits.

As in late 1985 and early 1986, the Persian Gulf War, the intransigence of the more volatile members of the Organization of Petroleum Exporting Countries and the unquestioned wallop that Saudi Arabia has on world marketplaces are the root causes of the new fears.

There's a difference this time around, however. In the winter and spring of 1985-86, the Saudis opened the floodgates and bathed the world in 3-million b/d to 4-million b/d more crude than it could possibly cope with. Its objective was to teach the other members of OPEC to better toe the line because it was tired of being the balancing rod.

This time, Iran is in a direct confrontation with the Saudis as well as Iraq. The stepped-up pace of the Gulf war isn't helping matters. Since Iran and Iraq are dependent on their oil revenues to defray the costs of their eight-year-old conflict, the fear is that the Saudis may re-open the flood gates, wreck the economies of the Iranians and the Iraqis—and most of the world—to force a negotiated settlement of the Gulf War.

That, in long term, would diminish the threat that Iran portends for the Saudis and possibly eliminate it entirely by bringing about restoration of a government more to the liking of the western cultures.

The fourth-quarter outlook is not particularly inspiring and might even be tilting already in the direction of supply and price problems in the first half of 1988 [*NPN*—Oct. '87 p14].

Crude, which struggled up from the $11 bbl. bottom of last summer, was trying hard to reach the $20 bbl. level it desperately needs for a better looking 1988. It was treading water in the fall and product prices also had question marks on them.

Many independents and major companies are concerned. For example, independent John Deuss, the Dutch-born broker who started up Atlantic Refining & Marketing on the East Coast not quite two years ago, and a man known for his lines of communication into the Middle East, says a sharp drop in world crude prices is inevitable if Saudi Arabia boosts production unmercifully. He says it can be as much as $5 bbl. to $10 bbl; in other words, $10 crude again. That would delight consumers with cheap gasoline but oh, at what a cost to the industry! In similar vein, Texaco's James W. Kinnear told a New York audience of business men that "in terms of energy independence, America is once again looking right down the barrel of a gun."

A reminder of the disastrous aspects of the 1986 collapse of the marketplaces is contained in an updated analysis by New York brokerage firm Salomon Brothers, "Proved Petroleum Reserves of 30 Large Companies, 1979-1986." It states:

- U.S. crude reserves fell 5% in 1986, the sharpest one-year decline in recent years;
- Natural gas reserves dipped 1.7% at the same time;
- The 30 companies involved in the survey replaced only 41% of their U.S. crude production and only 48% of their gas production;
- Outlays for exploration, production and development tumbled 47% in 1986 versus 1985, and 58% from the 1981 peak of $37-billion.

Virtually all of the numbers in the Salomon Brothers study are negative. For marketers, the wounds of 1986, the diminished cash flows against big ticket bills and the painful slowness of recovery in 1987 are still too fresh in memory to be set aside or forgotten. Yet, there is an outside chance that it could happen.

— J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

SEPTEMBER	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$1.000	$0.940	$0.990	$1.136
Regions:				
Northeast	1.030	0.955	1.001	1.156
North Central	1.011	0.967	1.007	1.141
South	0.995	0.923	0.983	1.129
West	0.975	0.928	0.974	1.114

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	10/30/87	10/31/86
Gasoline (total)	219,604	221,823
Gasoline (unleaded)*	130,483	121,172
Jet Kerosine	42,512	43,202
Distillates	124,588	151,214
Residual	46,371	47,869

**Included in gasoline total.*
Source: American Petroleum Institute.

[redacted]

Stage II's Hidden Costs

As part of its anti-Stage II campaign, the Southern California group has also done an analysis of what it estimates typical vapor recovery costs to be (in addition to equipment and installation costs) for both dealers and motorists at an average gasoline station. Here's the association's cost breakout:

- Extended time to dispense gasoline: Estimate at 45 minutes per day per nozzle, at $15 per hour equals $4,106.25 nozzle/year. "Due to the difficulty handling the nozzles, making proper interface, the slower fill rates (10 vs. 15 gpm), frequent shutoffs, etc., refueling takes 50% longer. . . Manhours for full-service (20%) are paid by station operator; self-serve costs the motorists time," the study says.
- Financial impact on the elderly and disabled (unable to use Stage II for self-service): "If they use 500 gal. per year at the full-service prices, 30¢ per gal. higher, that costs them $150/year. If this affects 5% of motorists, the cost would be $1,642.50 nozzle/year."
- Inspection time: "System operators have been told to inspect systems every few hours. . . Most do it daily. At 2 minutes/nozzle, a 10-nozzle station would cost $5 per day. Another 10 minutes per day is spent draining nozzles, straightening hoses, etc. for a total of $273.75 nozzle/year."
- Customer assistance: "At split-island stations and others where assistance is available, self-serve customers ask for or require help to get the nozzles properly interfaced and running. Just 10 minutes a day at $15 per hour equals $91.15 nozzle/year.
- SCAQMD style fees and enforcement penalties: "Estimated at $117, plus $6 in settlement dollars comes to $23 nozzle/year (San Diego is twice that)."
- Insurance costs and customer adjustments: "Nozzles stuck in fill-pipe,

(Continued on Page 30)

Stage II, Continued. . .

face-plate material clogging fuel lines, gasoline spitbacks on clothes and body, slips and falls raise insurance costs and result in out-of-pocket adjustments estimated at $20 nozzle/year."

- Spare parts, documentation, records: "System operators must, for their own protection, keep spare parts for quick repairs, take time for purchasing, records, payments and documentation storage relating to system operation. Estimated cost is $10 nozzle/year."
- Nozzle theft and driveaways with nozzles in fill-pipes: "Estimate is that 1% of nozzles could be involved each year, costing about $250 to replace the whole assembly, less the $50 average black market resale price of the "hot" nozzles. Estimated cost is $2 nozzle.

Total estimated cost to the dealer per nozzle per year is $1,241.25, according to SCSSA. Estimated annual cost to motorists per nozzle/year is $4,927.50. Total cost per nozzle/year is $6,168,75.

IPAA Outlook Bland for 1987, Blander for 1988

Independent Petroleum Assn. of America, in its traditional fall forecast, is neither optimistic nor pessimistic about the remainder of this year and the outlook for the New Year just down the road.

Domestic demand for petroleum products is expected to grow only 1.3% in 1987 and less than 1% next year. In other words, nothing really to get excited about or dismayed either.

U.S. crude oil production is expected to decline another 130,000 b/d for the third year in a row. There'll be an increase in imports next year so that they'll average 6.8-million b/d. In round terms, up an average of 322,000 b/d. Gasoline and distillates each will show an increase of about 3% in 1988, the association says. Residual fuel's slump will continue this year and next.

Although it doesn't say so, the association's projection is based on no abnormal disruptions in oil activities around the world. It predated the mid-October military activity in the Persian Gulf.

Neither Sunshine Nor Gloom Are in the Offing

(thousands of b/d)

	1st Q	2nd Q	3rd Q	4th Q	F.Y. '88	F.Y. '87*	% Chng
TOTAL DEMAND							
Motor Gasoline	6,826	7,448	7,463	7,221	7,240	7,180	.03
Aviation Fuels	1,390	1,385	1,450	1,455	1,420	1,380	2.3
Mid. Distillates	3,456	2,868	2,717	3,208	3,062	3,038	.08
Residual Fuel	1,285	1,120	1,110	1,185	1,175	1,250	(6.0)
Miscellaneous	3,607	3,611	3,910	3,783	3,728	3,642	2.3
Subtotal	16,564	16,432	16,650	16,852	16,625	16,490	.08
Exports	797	745	709	773	756	763	(.09)
Total Demand	17,361	17,177	17,359	17,625	17,381	17,253	.07
TOTAL SUPPLY							
DOMESTIC PROD.							
Crude Oil	8,245	8,182	8,144	8,108	8,170	8,300	(1.6)
Natl. Gas Lqds.	1,583	1,564	1,539	1,563	1,562	1,583	(1.3)
Subtotal	9,828	9,746	9,683	9,671	9,732	9,883	(1.5)
IMPORTS							
Motor Gasoline	368	446	450	405	417	402	3.7
Aviation Fuels	58	61	62	59	60	45	3.3
Mid. Distillates	265	208	273	275	255	263	3.0
Residual Fuel	571	494	504	547	529	571	(7.4)
Miscellaneous	608	681	706	719	680	622	9.3
Subtotal	1,870	1,890	1,995	2,005	1,941	1,903	2.0
Crude Oil	4,261	4,736	5,270	4,983	4,814	4,530	6.3
Total imports	6,131	6,626	7,265	6,988	6,755	6,433	5.0
Other Supply	872	883	796	878	895	902	(5.1)
TOTAL SUPPLY	16,831	17,255	17,744	17,537	17,343	17,218	0.7
Refinery Inputs	12,547	12,978	13,370	13,135	13,008	12,862	1.1
ENDING INVENTORIES (million bbl.)							
Motor Gasoline	237.1	230.4	229.9	229.4	229.4	232.3	(1.2)
Aviation Fuels	49.3	48.1	49.2	48.6	48.6	48.7	—
Mid. Distil.	108.0	109.5	138.7	147.0	147.0	149.6	(1.7)
Residual	39.9	41.0	42.9	44.5	44.5	45.8	(2.8)
All Other	250.1	264.3	267.8	253.1	253.1	255.5	(0.9)
Subtotal	684.4	693.3	728.5	722.6	722.6	731.9	(1.3)
Crude Oil	335.4	333.6	333.8	331.6	331.6	336.1	(1.3)
TOTAL STOCKS	1,019.8	1,026.9	1,062.3	1,054.2	1,054.2	1,068.0	(1.3)

*Estimated

Source: Independent Petroleum Assn. of America, Supply & Demand Committee Report, October 1987.

Fuel Oil Outlook: Stable—Unless. . .

It is the unpredictables, such as Persian Gulf developments and the stock market crash, which could most affect what would otherwise be another round of bland projections for the fuel oil market.

Even the vagaries of weather would pale next to a sudden loss of Middle East oil. There should be adequate supplies around the world, even with an Iranian-Iraqi cutoff—but traders, speculators and the futures markets have been shooting holes in past track records and rationality. And the nose dive on Wall Street heightens uncertainty. The full impact of the crash on business and consumer confidence may yet be unknown.

Barring such unforeseeables, however—and assuming that the weather behaves itself and is normal in degree days and seasonal fluctuations—fuel oil supply, demand and prices can be expected to be stable for the rest of this winter and throughout 1988. Margins may be thinner, though. Some marketers are saying that they may be down as much as a dime a gallon by spring.

The Numbers

Industry people contacted by NPN consistently used the word "stable" in their fuel oil forecasts for the beginning of the new year. According to Bernard Smith, executive vice president of the New England Fuel Institute (NEFI), a graph of supply and demand would show a straight line from September to June, "unless something catastrophic happens."

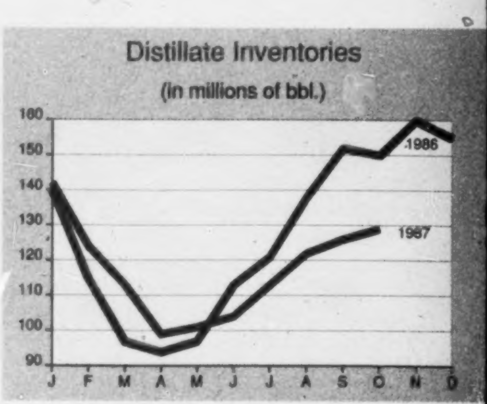
By Howard Shingle
Staff Reporter

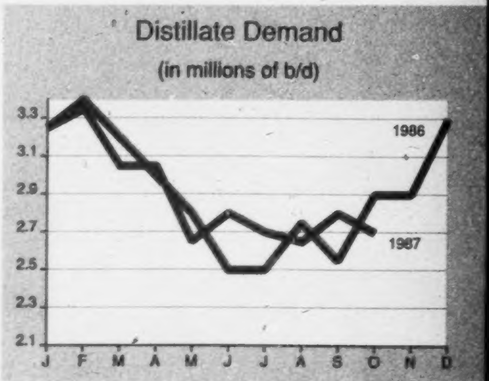
That same characteristic seems to apply when looking at the figures. The government's Energy Information Administration (EIA) projects fuel oil production and demand to remain fairly even for the next six months, adjusting itself only for seasonal fluctuations.

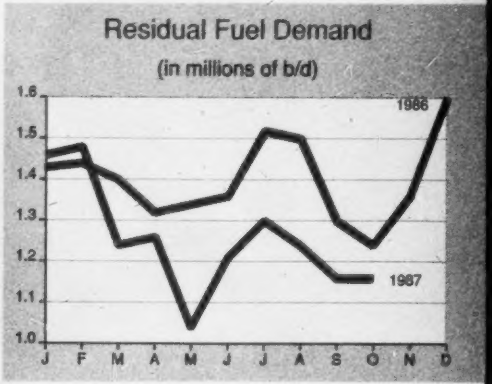
At the end of the second quarter of this year, domestic fuel oil production stood at 2.6-million b/d and it should return to about that same level (2.65-million b/d) by the second quarter of 1988, EIA says. In between, production should increase only 140,000 b/d to a maximum of 2.79-million b/d in the last quarter of this year. Comparing matching quarters between 1987 and 1988, EIA sees an increase of only 50,000 b/d (See chart).

Stocks of distillates reportedly have been down somewhat heading into the early part of the heating season, but not by much. EIA says stocks in July were down by 3% nationwide compared with last year. It further predicts stocks to remain an average 3% under last season for the rest of this year and to fall only to 5% in the first quarter of 1988.

Distillate stocks are down slightly, but supply should be no problem.


Distillate Inventories
(in millions of bbl.)


Distillate Demand
(in millions of b/d)


Residual Fuel Demand
(in millions of b/d)

The American Petroleum Institute (API), however, reports distillate stocks at 128-million barrels at mid-October, down 16% from the same time a year ago. The EIA-API differences are easily explainable, however, because their data bases and collection procedures, while similar, are not numerically compatible.

API adds that "most distillate demand during the heating season. . . is met from current refinery production." For example, refinery production provided 87% of distillates supplied during last year's heating season while inventories supplied 8% and imports the remaining 5%, API says.

Even so, EIA, NEFI and most marketers believe supply will not be a problem in the coming year, unless there is a major disruption in the supply of imported oil. As NEFI's Smith puts it, the situation is like a tug-of-war. When one side gives, the other side is immediately affected.

API's director of statistics, Edward Murphy, agrees. "Supply interruptions, such as cutoffs of petroleum imports, could bring about major changes in the supply/demand equation. Similarly, as is always the case, spot shortages could crop up in various parts of the country if breakdowns in the distribution system were to result from such phenomena as snow storms, fires or floods. However, absent these type of problems, there should be more-than-adequate supplies of home heating oil," he says.

In its latest forecast on fuel oil demand for the coming year issued in late October, the Independent Petroleum Assn. of America (IPAA) predicts demand for all products will average to 16.5-million b/d for 1987, a 1.3% increase over 1986. IPAA foresees demand increasing a mere 1% next year.

Overall distillate demand will grow as diesel usage gains and replaces what has been lost in residential heating, IPAA says. Residual fuels, on the other hand, will continue to fall as has been the case for the past year or two. IPAA sees an overall decline of 12% for 1987, and an additional 6% loss in 1988.

Fuel oil prices also are expected to remain stable into the new year, other than for normal seasonal adjustments. EIA's national price average sees no more than a 5¢ a gal. increase in wholesale prices through the end of 1988 for No. 2 fuel oil. Retail prices are expected to see no more than a 10¢ a gal. increase, EIA predicts, to 88¢ a gal. as a national average by the end of next year.

Prices, however, are volatile and can change practically overnight. During the third week of October, news stories on the Iran-Iraq war and the shelling of two Iranian oil platforms by the U.S. caused a "sharp" increase in wholesale prices, according to many marketers.

World and market conditions interact on prices, NEFI's Smith says. An extended disruption in supply from the Persian Gulf, for example, or a 10- to 15-day cold snap in the weather can cause price spikes and spot shortages as have been seen in the last year or so.

The Regional Scene

Fuel oil marketers must face the new year at their own level: regionally and even locally. National averages for prices, production and demand may not apply to an individual company.

In the Northeast, for instance, Smith says retail prices for No. 2 heating oil will probably range about 10¢ a gal. higher than the EIA forecast for the national average. NEFI sees a 5% price increase this season, possibly hitting 10% during peak periods.

The increases are partly due to a wholesale price increase this past summer that hasn't been passed on to customers yet, Smith says. Full-service fuel oil dealers also need a few extra cents per gallon to cover overhead and pay for and train technicians, he notes. However, he adds, competition, which is "so keen" in New England, will be a force acting to keep prices down.

"Inventories are more than adequate" at this time in the Northeast, Smith says. He points out that a chilly Spring this year and dealer moves to deplete their inventories caused many customers to close out the season with nearly full tanks. As a result, most of that fuel oil was still in customer tanks when the current season got underway, thus deferring September-October drawdowns until November and early December.

In the Central-Midwest, David Mangelsdorf of Home Service Oil Co., Barnhart, Mo., has an optimistic view of the heating season. The past two seasons were warm in the St. Louis area, but by late October this year there had been more than 300 degree-days already.

Despite the early demand for home heating oil though, Mangelsdorf is reluctant to raise retail prices just yet. Home Service Co. has a small competitor that regularly prices product 5¢ a gal. below it, he explains, and as in most places the company's prices reflect its competition.

Margins will be a little tighter this year, probably around a quarter a gallon, Mangelsdorf predicts. That figure is down from between 35¢ and 40¢ a gal. in the recent past, he adds.

There was a "severe jump" in rack prices following reports of fighting in the Persian Gulf, he says, but he expects most of those type of price spikes to be short-lived, based on "psychological shortages." Not much of the fuel oil used in the Midwest comes from crude oil from

Federal Data: 1986 A Good Year For Distillates

No one can say for sure whether the collapse of prices in 1986 had anything to do with it, but distillate sales in that 12-month period didn't do badly at all.

The federal government's annual report on sales and deliveries of distillates, issued in late October, said sales totaled 45.1-billion gal. in 1986, up a neat 4.8% over 1985's 43.0-billion gal.

The recovery was so strong that it came within a stone's throw of 1984's total of 45.6-billion gal. The distillate total, however, includes the diesel cut for highway use, which continues to grow while demand for residential use continues to decline.

The 1985 summary was dismal on its face [*NPN*—Dec. '86, p39]. It showed that only 12 states had distillate increases that year while the remaining 38 were negatives. The 1986 summary is almost an exact reversal—39 states were up and 11 were down.

The 1986 losers were Vermont, Delaware and West Virginia on the Atlantic Coast; Kansas, Kentucky and Missouri in the midlands; Arkansas and Texas in the southern tier; Montana and Wyoming in the Rockies and Alaska in the far north.

Percentages are often deceiving but the biggest declines were recorded in Alaska (17.7%), West Virginia (21.8%) and Montana (34.8%). The biggest increases were in Utah (28.1%), Oklahoma (25.5%), South Dakota (25.1%), Maine (22.8%) and Rhode Island (20.7%). The Catch-22 in these percentages, however, is that New York's increase of 17.8% entails roughly 500-million gal., which is almost double the amount consumed in Utah all year.

Omitted from the table on the opposite page are the sales totals for oil company use, electric utilities, railroads, vessel bunkering, military, off-highway and miscellaneous items: These sales are included in the totals for the U.S. in the last column, however.

For reference, the government defines residential use as primarily private households; commercial use as apartment buildings, motels, laundries and nonmanufacturing facilities; industrial as mines, smelters and manufacturing/processing facilities; farm as agricultural machinery, crop drying, smudge pots and some space and water heating; and highway consumption as motor fuel for trucks, buses and some passenger cars.

Distillate Sales by States and Markets in '86

(millions of gal.)

	Residential		Commercial		Industrial		Farm		Highway		U.S. Totals*		% Chng.
	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986	'86 vs '85
New England	**1,909**	**2,074**	**540**	**663**	**106**	**135**	**15**	**15**	**648**	**722**	**3,365**	**3,768**	**12.0%**
Connecticut	449	548	163	167	40	41	X	X	184	179	852	948	11.3
Maine	225	269	45	74	10	11	4	4	126	140	426	523	22.8
Massachusetts	827	875	262	316	33	57	2	2	245	267	1,458	1,606	10.2
New Hampshire	149	153	25	42	7	7	2	2	42	51	237	266	12.2
Rhode Island	157	142	20	38	8	9	X	X	12	45	203	245	20.7
Vermont	102	87	24	25	10	10	6	6	39	40	188	181	(3.7)
Mid-Atlantic	**3,570**	**3,618**	**1,170**	**1,615**	**383**	**408**	**143**	**135**	**2,043**	**2,226**	**7,949**	**8,822**	**11.0**
Delaware	61	50	15	12	9	9	7	8	51	63	151	148	(2.0)
District of Columbia	23	19	34	47	X	X	X	X	21	21	109	127	16.5
Maryland	231	228	89	73	43	44	22	21	238	275	786	790	—
New Jersey	832	817	259	421	69	97	12	22	446	451	1,788	2,085	16.6
New York	1,426	1,612	545	779	110	68	55	46	519	615	2,766	3,258	17.8
Pennsylvania	997	893	227	284	152	169	47	38	770	811	2,348	2,413	2.8
South Atlantic	**578**	**664**	**541**	**526**	**302**	**332**	**297**	**343**	**2,736**	**2,835**	**5,429**	**5,781**	**6.5**
Florida	26	22	168	162	40	42	95	133	707	681	1,306	1,399	7.0
Georgia	16	17	71	47	46	50	73	99	665	711	1,007	1,055	4.8
North Carolina	225	236	122	114	65	85	56	57	513	549	1,083	1,220	12.7
South Carolina	53	56	39	33	37	25	23	23	293	294	508	510	—
Virginia	236	307	113	134	60	89	47	27	438	469	1,091	1,260	15.5
West Virginia	21	26	28	35	55	42	3	5	121	132	431	337	(21.8)
Total PAD 1	**6,057**	**6,357**	**2,251**	**2,804**	**793**	**875**	**455**	**494**	**5,427**	**5,783**	**6,743**	**18,371**	**9.7**
Illinois	97	98	170	89	67	135	155	197	587	695	1,360	1,501	10.4
Indiana	109	129	113	82	113	122	67	401	693	681	1,275	1,346	5.6
Iowa	61	62	48	30	11	20	178	230	298	288	649	686	5.7
Kansas	3	1	30	15	9	20	121	147	261	253	609	599	(1.6)
Kentucky	35	30	65	46	176	154	42	38	329	368	907	869	(4.2)
Michigan	255	263	101	132	64	63	79	98	455	478	1,080	1,152	6.6
Minnesota	164	179	117	48	34	34	138	194	289	288	821	821	—
Missouri	35	37	63	66	39	30	99	76	448	473	819	784	(4.3)
Nebraska	15	13	34	15	9	8	154	163	186	189	509	508	—
North Dakota	48	47	21	14	12	13	96	113	93	87	314	320	1.9
Ohio	191	205	87	95	109	129	59	72	831	798	1,511	1,526	—
Oklahoma	4	1	30	13	88	30	75	51	388	369	788	587	25.5
South Dakota	32	46	12	12	3	4	65	100	95	90	211	264	25.1
Tennessee	11	7	132	63	55	50	47	44	513	527	930	951	2.3
Wisconsin	275	287	136	77	17	26	99	99	350	364	949	945	—
Total PAD 2	**1,334**	**1,405**	**1,159**	**798**	**804**	**837**	**1,475**	**1,722**	**5,817**	**5,950**	**12,712**	**12,859**	**1.2**
Alabama	X	1	38	31	29	70	35	25	358	368	602	628	4.3
Arkansas	X	X	34	6	8	12	143	128	288	295	533	507	(4.9)
Louisiana	X	X	109	127	52	48	31	112	326	349	1,100	1,208	9.8
Mississippi	X	X	31	14	28	12	45	83	280	288	554	543	(2.0)
New Mexico	X	1	13	13	62	60	9	23	178	183	303	359	18.5
Texas	1	X	279	170	285	256	229	209	1,550	1,437	3,336	3,130	(6.2)
Total PAD 3	**3**	**3**	**504**	**360**	**463**	**456**	**493**	**581**	**2,980**	**2,920**	**6,428**	**6,375**	**—**
Colorado	4	2	25	16	11	17	46	60	199	187	379	410	8.2
Idaho	23	25	14	11	9	14	45	54	97	98	218	239	9.6
Montana	13	14	32	16	10	20	88	45	107	105	430	281	(34.7)
Utah	3	3	20	36	25	35	6	13	132	139	235	301	28.1
Wyoming	2	1	16	15	28	37	16	16	116	102	298	275	(7.7)
Total PAD 4	**45**	**45**	**107**	**94**	**83**	**122**	**202**	**189**	**651**	**632**	**1,561**	**1,505**	**(3.6)**
Alaska	53	46	37	36	27	20	X	X	107	97	412	339	(17.7)
Arizona	X	X	19	16	36	40	15	30	268	280	410	468	14.1
California	6	10	141	243	125	237	380	203	1,387	1,571	2,943	3,163	7.5
Hawaii	X	X	5	8	3	5	13	13	19	20	188	198	5.3
Nevada	11	11	13	21	34	23	9	7	93	97	218	234	7.3
Oregon	95	88	55	58	33	23	31	49	244	245	619	624	—
Washington	124	132	171	104	39	44	28	52	287	332	825	989	19.9
Total PAD 5	**289**	**288**	**442**	**487**	**298**	**391**	**476**	**355**	**2,404**	**2,642**	**5,615**	**6,014**	**7.1**
Total U.S.	**7,728**	**8,098**	**4,463**	**4,542**	**2,441**	**2,682**	**3,102**	**3,341**	**17,280**	**17,927**	**43,059**	**45,124**	**4.8%**

*Totals also include oil company use, electric utilities, railroads and vessel bunkering, military, off-highway and miscellaneous uses.
X equals less than 1-million gal.; totals may not add up due to rounding off of numbers.
Source: Energy Information Administration, "Petroleum Marketing Monthly," July issued in October.

Storage tank regs and insurance will be major issues.

the Gulf, he explains. In the short term, Mangelsdorf expects retail prices to rise by normal seasonal averages.

Further north, in Michigan, the outlook is similar. The Michigan Dept. of Commerce and Public Service Commission released its winter outlook in October.

"With normal temperatures and a stable economy, total fuel oil demand is projected to rebound to average consumption levels" of about 96-million gals. a month, the report predicts. As in the St. Louis area, warmer than average temperatures in Michigan last season produced significantly lower sales in No. 2 home heating oil.

Regional refinery stocks are expected to "continue a trend of declining levels," down only slightly though at about 2.6% below a year ago, with some increase expected after the first of the year, the outlook notes. Still, supplies are not foreseen returning to the healthy 1985 average levels, the report says.

Home heating oil prices this season are projected to open at about 80¢ a gal. or just slightly above where they closed last season. "Only normal seasonal fluctuations throughout the coming winter heating months" are seen for retail prices, the outlook predicts.

In the Pacific Northwest, the outlook is rather "conservative," according to Jeff Grant, the executive director of both the Oil Heat Institute of Washington and Oregon.

A fairly warm Winter and Spring had left demand flat last season and little has changed so far, he says. For this season, demand and inventories are described as "good."

Legislative Problems

Almost as unpredictable as the weather and Mideast events is what will happen in domestic legislatures. Storage tank regulations and liability insurance are seen as the two most important issues facing fuel oil marketers in the coming year.

The U.S. Environmental Protection Agency (EPA) was scheduled in November to review the exemption of fuel oil storage tanks from federal underground tank regulations.

Bill Kenny, president of Meenan Oil Co. in New York, says the oil heat industry is in "enormous danger" if federal regulations require upgrading or replacing underground fuel oil tanks.

Kenny says between 24% and 30% of the fuel oil tanks in the U.S. are underground as opposed to basement or aboveground tanks. Legislation affecting tanks could just push more homeowners to converting to natural gas heat, he says.

Kenny is co-chairman of the Oil Heat Task Force, an *ad hoc* coalition of fuel oil marketing companies and associations. The Task Force recently released its independent study on fuel oil tanks. The study found marked differences between fuel oil and gasoline and the effects of product leaks. The Task Force is using the study to persuade EPA to recommend a continuation of fuel oil's exemption from tank regs.

NEFI's Smith says, "Unfortunately, lawmakers have roped all petroleum products into one category." Fuel oil is "a minimum risk product in most areas," he adds. Most fuel oil "leaks" are actually spills and no amount of tank legislation will prevent that, he says.

Mangelsdorf in Missouri says, "Their (EPA's) part in how we do business is becoming more and more powerful." He believes the EPA may require marketer inventory control or regular reconciliation of customer tank levels as a method of monitoring for leaks. Fortunately, he says, there are not many underground fuel oil tanks in the Midwest.

Petroleum Marketers Assn. of America (PMAA) and others have stressed repeatedly, however, that the "K factor" (a formula used to determine when customers will probably need more fuel) in automatic deliveries provides dealers with an effective measurement tool that would make unusual conditions, such as excessive consumption or leakages, quickly apparent.

The problem with liability insurance is the lack of pollution coverage. It is nearly impossible to get, especially at a reasonable price, says Smith. NEFI is working to get the federal government to place minimal limits on how much liability coverage a marketer must carry.

Once limits are set, NEFI plans to work on getting the government to either pick up the cost of the minimum coverage it imposes and let marketers pay the rest, or pick up the cost of coverage beyond the minimum level that it would require a marketer to purchase, Smith says.

New Customers

Finding new customers is the key concern among fuel oil jobbers—the future of their businesses depends on it.

On the Upper Atlantic seaboard, the citadel of fuel oil heating, the future looks

Fuel Oil Supply and Demand
(in millions of barrels)

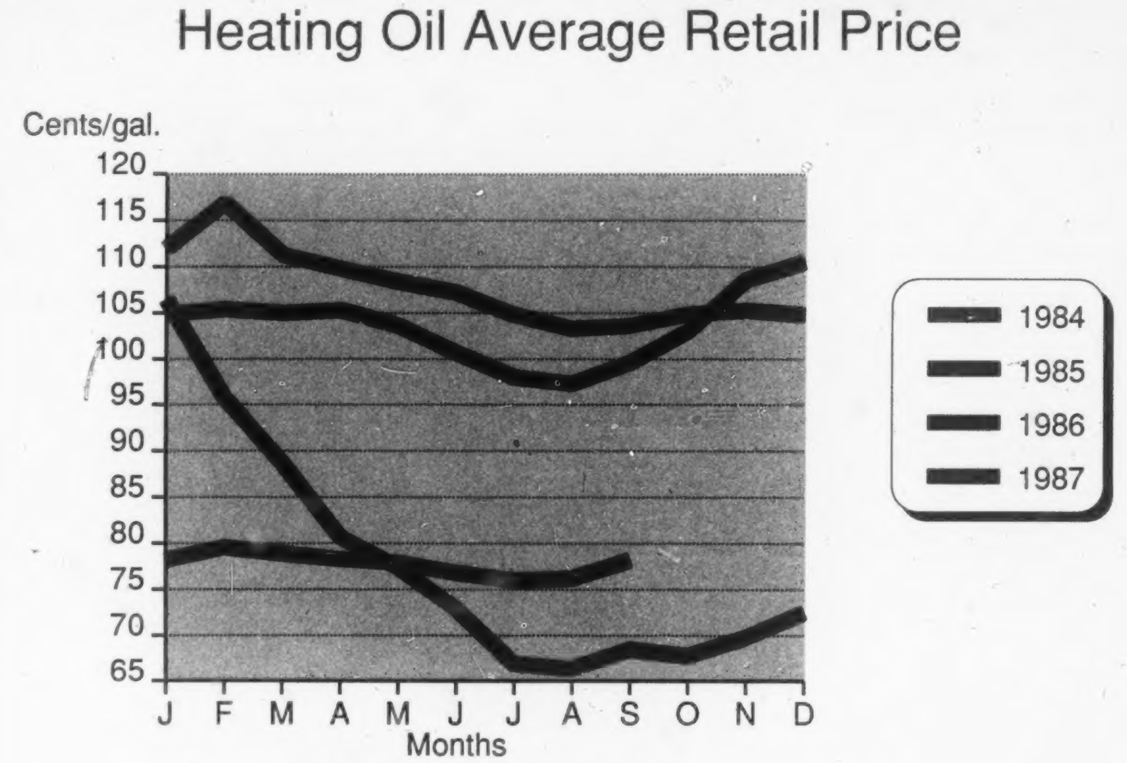
			Projections			
	1987				1988	
	1Q	2Q	3Q	4Q	1Q	2Q
Production (b/d)	2.58	2.60	2.77	2.79	2.63	2.65
Net Imports (b/d)	0.12	0.14	0.21	0.32	0.24	0.19
Product Supplied (b/d)	3.20	2.80	2.58	3.03	3.37	2.79
Ending Stocks (total)	110.00	104.60	142.10	150.20	104.50	108.60

Source: Energy Information Administration, "Short-Term Energy Outlook," dated June, published in late September.

Fuel Oil Prices
(cents per gal.)

			Projections					
	1987				1988			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
PRICES (per gal.):								
Wholesale	.50	.50	.50	.51	.55	.55	.54	.54
Retail	.79	.77	.78	.83	.87	.85	.86	.88
Residual Fuel Oil	.41	.41	.40	.42	.44	.43	.43	.44

Source: Energy Information Administration, "Short-Term Energy Forecast," dated July 1987, published in mid-August.



Note: Figures for June through September 1987 are preliminary or estimates.
Source: Energy Information Administration.

good. Smith says fuel oil is getting a larger share of the new home construction market than it has in the past 25 years.

He estimates fuel oil's share stands at about 25% of new construction business in the Northeast. He adds that there have been a lot of conversions from electricity in that region as well, mostly because of the high cost of electric heat and the relatively low cost of fuel oil.

America's heartland, however, is "a tough market for fuel oil," says Mangelsdorf. We have "a real battle on our hands." Homeowners and construction companies are so "brainwashed" into thinking only of natural gas heat that they don't even know things like oil-fired water heaters exist, he says.

The new home construction market is virtually closed for fuel oil marketers in his part of the country, Mangelsdorf notes. His company's battle plan is to keep those customers it already has. A full-service equipment service shop was recently added to his company specifically to maintain current customers.

To a very large extent, new fuel oil customers will come from competitors or be picked up through acquisitions. Possibly the biggest fuel oil story this past year, in fact, was Petroleum Heat & Power's acquisition of Whaleco Oil Co. [*NPN*—Sept. '87, p18].

Petro, Stamford, Conn., was already doing more than 300-million gals. a year of retail fuel oil business at the time it bought Whaleco. The purchase secures Petro's position as the No. 1 fuel oil retailer in the country.

Whaleco's president Peter Carini explains the sale of the company by saying that the only growth to be achieved in fuel oil sales is through acquisition of smaller companies. He also warns, however, that such cannibalism can be costly in that it ties up capital.

There probably will be plenty more buying and selling of companies going on in the year to come, especially along the East Coast. That area is loaded with independent entrepreneurs and has seen a lot of changes in the recent past [*NPN*—Aug. '87, p30].

That leaves persuading fuel oil customers to switch companies as the way to increase market share. Tim Cronin, Cronin Oil Inc., West Allis, Wis., has embarked on an ambitious telemarketing program that has seen his new customer list grow by 520 homes—all of which he has taken away from his competitors. Cronin says he plans to increase his market share to 25% of the Milwaukee area [*NPN*—Nov. '87, p56].

Promotional Efforts

Telemarketing as a promotional tool to secure and increase customer lists was a topic of discussion at the PMAA's Fifth National Oil Heat Marketing and Promotional Conference in Toronto in August.

At the conference, fuel oil marketers were urged to promote their companies and support efforts to promote the fuel oil industry. The Metropolitan Energy Council (MEC) of New York, the premier organization for promoting fuel oil heat, provides institutional advertising materials to marketers and fuel oil associations.

James Devine, MEC secretary, notes that the monies being spent on fuel oil advertising and promotion represent only a fraction of that being spent by natural gas and electric utilities. Yet, he reports, that is changing. Tens of thousands of dollars are budgeted in virtually every region of the country to promote fuel oil in television and radio ads.

The Pacific Northwest will see its biggest promotional efforts this season after relative inactivity, Devine says. Between $100,000 and $150,000 is being budgeted by Washington and Oregon alone. Across the country in the Northeast, virtually every state association from Maine to Virginia to Pennsylvania has budgeted promotion money.

So the word is getting out that fuel oil heating is not dead. As long as the weather, the government and the Mideast play along, smooth sailing should be the immediate outlook for the industry.

January 1988

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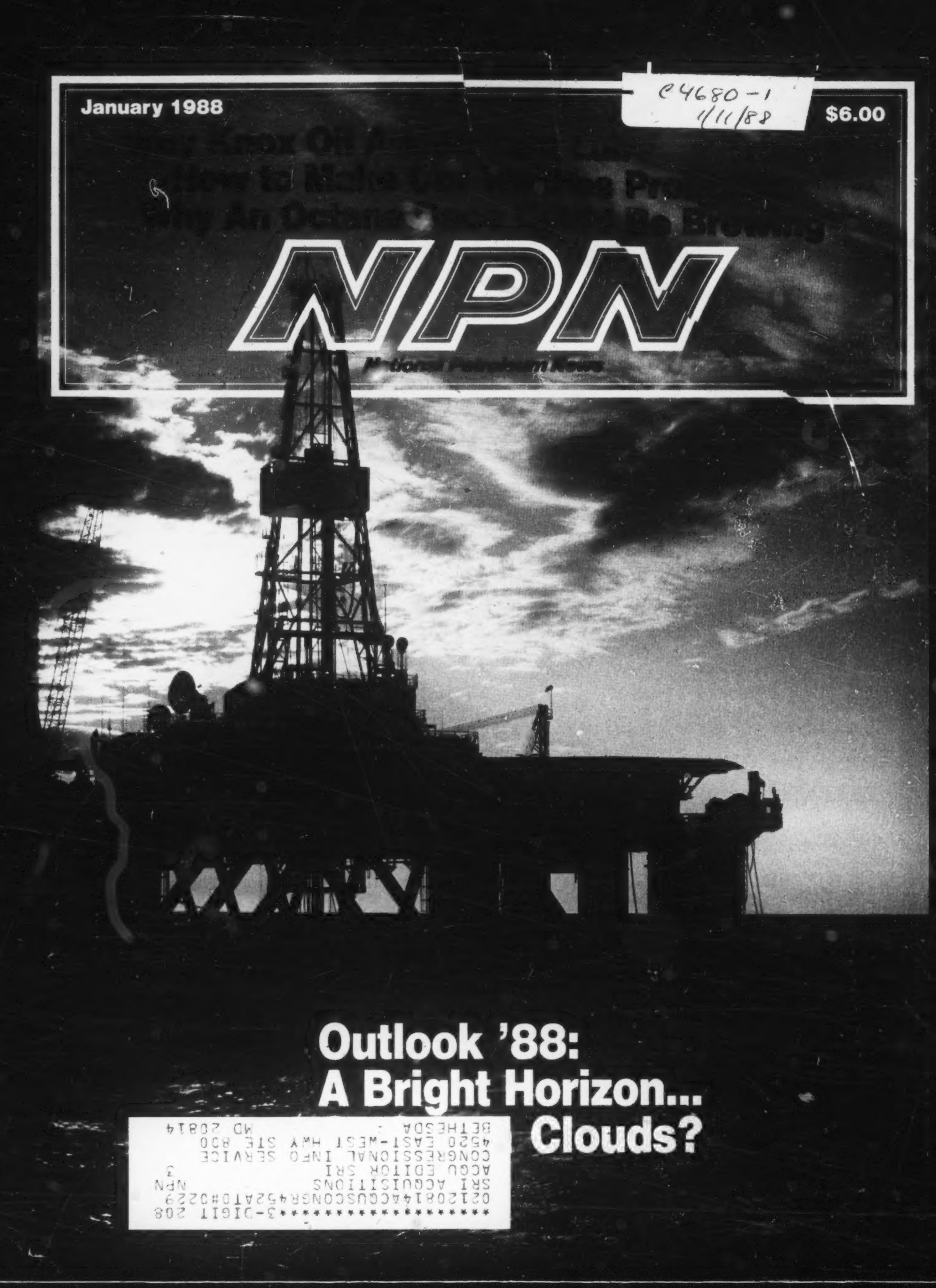

Outlook '88: A Bright Horizon... Clouds?

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NATIONAL PETROLEUM NEWS
Established in 1909

VOL. 80 NO. 1

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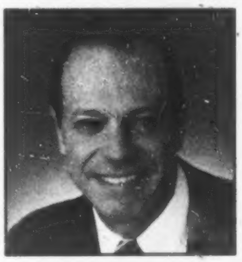

Editor's Viewpoint

Indications are that the upcoming year will be, on balance, a pretty good one—nothing spectacular, but at least a steady continued recovery from 1986 when the entire industry was jolted by plummeting oil prices. Gasoline consumption, for instance, should remain relatively stable (See story on page 32). Not great news, but not bad either, except that flat demand might put downward pressure on margins. Pump prices are expected to rise slightly, but stay below the 1985 level of $1.20 a gal. And some industry observers say crude prices will hold in the $18 a bbl. area, especially since Saudi Arabia's oil minister told the API meeting in November that his country would support that price.

Events in the Persian Gulf, of course, could send the forecasters back to the drawing boards. And there are signs of impending trouble here at home as well. One of the most significant indicators of what lies ahead is that oil company expenditures for marketing this year are expected to be a record $4.9-billion. Combined with an estimated $4.4-billion last year and a planned $4.8-billion next year, refiners will have spent $14.2-billion in a three-year period.

For some jobbers, this bodes well. But there is also an ominous underlying message in those figures because they indicate increasingly tough competition on the street and an even greater emphasis by refiners on boosting gallonage and improving brand image. That will hurt jobbers who are unable or unwilling to commit the large financial investment needed to upgrade their stations. Some may be forced out of business and others may have to "de-brand," which could make it difficult for them to get supply. In addition, the stiff competition may compel the majors, who have already laid claim to most metropolitan areas as their private preserve, to spread out even further. Some marketers report that this is, in fact, beginning.

Meanwhile, jobbers and suppliers alike are keeping a watchful eye on regulatory developments, especially those relating to underground tanks, hazardous substances and vapor recovery. They're also monitoring action on Capitol Hill. And with good reason. Under normal circumstances, legislators are an ever present threat. This year, however, they could be even more dangerous because it's an election year (what some people appropriately call the "silly season"). So, don't be too surprised if you see such things as the import tax or a hike in federal gasoline taxes given more attention, especially since legislators will be looking for "painless" taxes to plug into the recently developed deficit reduction plan. — *Frank M. Victoria*

National Petroleum News (NPN) (ISSN 0149-5267) is published monthly by Hunter Publishing Co., Inc., 950 Lee Street, Des Plaines, Illinois 60016. (312) 296-0770.

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience-store items. Position, company and segment of industry must be indicated on subscription orders.

Basic **subscription rates** for one year to individuals in the petroleum marketing industry are: U.S. $54; Canada $63 (U.S. $); Foreign surface mail $69 (U.S. $); Foreign airmail $104 (U.S. $). Non-industry personnel rates for one year are: U.S. $69; Canada $78 (U.S. $); Foreign surface mail $84 (U.S. $); Foreign airmail $128 (U.S. $). **Single copy price:** U.S. & Canada $8.00 (includes first class postage). Foreign $10.00 (includes airmail postage). **Mid-June Factbook:** U.S. $50; Canada $60; Foreign $70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. **Change of address:** Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (312)296-0770, 9 a.m. to 4 p.m.

Postmasters: Send address changes to NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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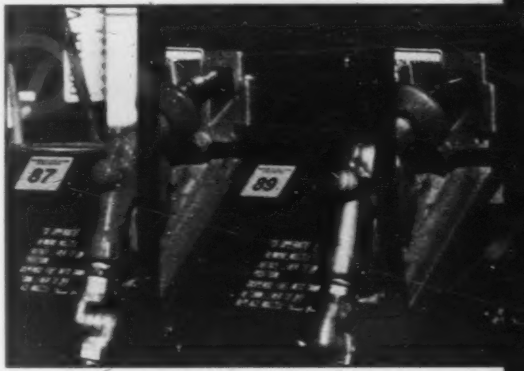
Looks like a good year for the industry—barring the unpredictables. **Page 32**



An "octane race" could be in the offing in the not too distant future. **Page 42**

Why Knox Oil is trying its hand at quick lube service for truckers. **Page 44**

Study Ranks Producers, Refiners and Marketers

A new and updated study by the American Petroleum Institute confirms, although the numbers vary somewhat, that the majors and the minors are clinging tightly to the positional roles they have held in recent years as oil producers, refiners and marketers of gasoline.

The concentration ratios show that eight companies accounted for roughly half of the industry's liquid oil reserves and production, refining capacity and throughput, and gasoline sales in 1986.

Although the API report didn't necessarily single them out in this fashion, the eight companies in alphabetical order would include Amoco, Arco, Chevron, Exxon, Mobil, Shell, Standard Oil and Texaco.

The API study is entitled "Market Shares and Individual Company Data for the U.S. Energy Markets: 1950-1986." It's dated October, 1987, but wasn't actually distributed until late November and early December. The chart below shows the concentration ratio for 1986.

Concentration Ratio

Segment	4 Cos.	8 Cos.	15 Cos.	20 Cos.	30 Cos.
Gasoline Sales	29.4%	49.5%	66.4%	70.4%	76.5%
Oil Production	26.6	44.6	56.5	59.8	63.3
Oil Reserves	29.7	47.1	57.2	59.3	61.1
Refinery Cap.	33.2	53.0	71.6	79.0	87.9
Refinery Runs	33.6	55.4	74.9	81.1	—

Following is also the breakout for the various segments of the industry—liquid oil production, proved reserves, refinery runs and refinery capacity, and gasoline marketing. To make the figures more meaningful, NPN added percentage calculations on 1986 production to proved reserves, and 1986 refinery runs to capacity, i.e., utilization of the facilities, and its own gasoline data as a basis of comparison with the Lundberg Report data that are used by the API researchers.

The production-to-reserves numbers show wide variations, from Shell's 7.9% to Phillips's 23.3%. Similarly, in refining operations, the percentage comparisons showed Chevron to be using only 72.4% of its capacity vis a vis Texaco's virtually nonstop performance. A factor to remember in the gasoline sales tables is that Lundberg used net taxable gallonage which it got from the states and other sources while NPN reports were based on the refinery gate sales of all of the companies involved.

The second tier of 12 refiners owning operable capacity in 1986 included Ashland 346,500 b/d, on down as follows: Coastal, Phillips, Citgo, Koch, Union Pacific, Kerr-McGee, Solomon, Total, MAPCO, American Petrofina and Diamond Shamrock.

12 Top Producers

	(Add 000 b/d) Production		(Add 000,000 bbl.) Proved Reserves		
	1986	% of U.S.	1986	% of U.S.	Production/ Reserves Ratio
Exxon	761	7.4%	2,627	7.5%	10.6%
Standard	727	7.1	2,406	6.9	11.0
Arco	659	6.4	2,728	7.8	8.8
Texaco	590	5.7	1,654	4.7	13.0
Shell	571	5.6	2,632	7.5	7.9
Chevron	547	5.3	1,880	5.4	10.6
Amoco	394	3.8	1,560	4.5	9.2
Mobil	342	3.3	1,014	2.9	12.3
Phillips	316	3.1	496	1.4	23.3
Marathon	189	1.8	629	1.8	11.0
Sun	171	1.7	649	1.9	9.6
Unocal	168	1.6	661	1.9	9.3

12 Top Refiners

(Add 000 b/d)

	Runs	% of U.S.	Capacity	% of U.S.	% Utilized
Chevron	1,335	10.4%	1,845	12.2%	72.4%
Exxon	1,080	8.4	1,144	7.6	94.4
Shell	975	7.6	1,046	6.9	93.2
Texaco	920	7.2	886	5.9	103.8
Amoco	855	6.7	967	6.4	88.4
Arco	665	5.2	673	4.5	98.8
Mobil	643	5.0	755	5.0	85.2
Standard	623	4.9	668	4.4	93.3
Marathon	442	3.5	513	3.4	86.2
Sun	416	3.3	443	2.9	93.9
Unocal	416	3.3	490	3.2	82.9
Conoco	358	2.8	393	2.6	91.1

12 Top Gasoline Marketers

(billions of gal.)

	Lundberg Reports		NPN Analysis		Rankings	
	1986	% of Mkt.	1986	% of Mkt.	Lund.	NPN
Shell	8,685	7.9%	9,505	8.7%	1	1
Amoco	8,322	7.6	8,018	7.4	2	5
Exxon	7,806	7.1	8,201	7.5	3	4
Chevron	7,574	6.9	9,160	8.4	4	2
Mobil	7,132	6.5	7,328	6.7	5	6
Texaco	7,100	3.7	8,738	8.0	6	3
Unocal	4,069	3.4	3,986	3.7	7	10
Standard	3,747	3.0	5,476	5.0	8	7
Phillips	3,245	2.6	3,725	3.4	9	12
Arco	2,887	2.6	5,028	4.6	10	8
Southland	2,816	2.5	2,050	1.9	11	14
Sun	2,764	2.5	3,756	3.4	12	11

N.B. As noted above, Lundberg data are based on taxable gallonage figures obtained from the state agencies and other sources while NPN's reflect the total refinery gate sales posted by the companies in their annual reports and internal reports. NPN's numbers give 9th place to Marathon, which is not mentioned in Lundberg's top 12.

• TRENDS

Solid Statistics Badly Needed by Oil Industry

Some day the oil industry may get the verifiable data it needs to accurately calculate crude production and shipments around the world. Until it does there's not much hope the U.S. marketplaces will be spared the supply and price gigs of recent years.

American data aren't too bad, considering that most of the numbers come from a wide variety of sources, including the federal government, oil companies, associations, banks, economists and brokerage houses, trade and financial publications, agencies and a myriad of others, many of whom have special-interests ground into their data and their interpretations of trends.

As a matter of fact, a study by the American Petroleum Institute not too long ago showed that its data, the government's and several other leading sources were really not that far apart; that most of the differences could be accounted for by the collection methodology and the number of participants in any particular study. The API, of course, is the industry's prime source of statistics but its role is gradually being overshadowed by the Energy Information Administration. A significant difference is that API's data collection is voluntary and generally confidential in the raw while those of the federal government are mandatory for participants.

Overseas, however, it's another world entirely—a shambles in a way that make some of the reports sound as though they had come from the Tower of Babel in the wake of the heavenly intervention. For example, OPEC production estimates by six reliable authorities for the third quarter of 1987 varied almost 3-million b/d, from 16.6-million b/d on the low side to 19.2-million b/d on the high side. Translated into dollars, that gap is worth more than $50-million a day.

It's daft, said one international trader in an article in The Wall Street Journal recently: "The world's most important industry is flying blind. One result is that we don't know whether too much oil is being produced until the market breaks and prices fall."

That was what pretty well happened in late 1985 and early 1986. Because no one really knew how much crude was being thrown onto the market by Saudi Arabia and other members of the OPEC cartel, bulging inventories and overloaded supply lines simply caused the bubble to burst when it was least expected.

Time was when government agencies, oil companies and trade publications had reasonable access to fairly reliable country-by-country figures. But the nationalization programs of the 70s and the games that many of the OPEC members play with their statistics make honest figures hard to come by. Now, said the Journal, the need for good numbers is so great that some analysts have taken to counting ships leaving harbors to get some kind of an idea of how much oil is being shipped and where the cargos are bound.

Billions of dollars ride on such estimates. For example, at today's prices, crude or product cargoes can be worth $5-million to $15-million or so, depending on the size of the tanker and the ultimate destination.

Traders often grasp at the tiniest scraps of information in their daily jousts for the dollars to be won or lost in such places as the mercantile exchanges. For example, a strike by cooks on platforms in the North Sea suggested that production may suffer as a result. That was enough to salivate traders and escalate prices on the exchanges. Similarly, mines and gunfire in the Persian Gulf have caused price spikes and collapses with increasing frequency.

No one wants the statistics and the marketplaces to become so cut and dried that there'd be no fun anymore. But it sure would be helpful if the statistics could become authoritative enough to let reason and sanity prevail in the marketplaces, not some half-baked rumors about a shutdown or a slow down in the far-off Middle East or the cold North Sea.

—J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

OCTOBER	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$0.988	$0.931	$0.976	$1.128
Regions:				
Northeast	1.018	0.945	0.988	1.145
North Central	0.992	0.952	0.987	1.125
South	0.984	0.909	0.972	1.121
West	0.968	0.931	0.959	1.119

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	11/27/87	11/28/86
Gasoline (total)	224,285	225,438
Gasoline (unleaded)*	134,138	123,297
Jet Kerosine	43,127	41,355
Distillates	124,648	149,147
Residual	47,476	46,460

**Included in gasoline total.*
Source: American Petroleum Institute.

NPN

NATIONAL PETROLEUM NEWS JANUARY 1988

Oil Patch (and U.S.) Still Groggy From 1986 Crude Price Collapse

The domino effect from the 1986 crude oil price collapse is still rippling across the economies of 10 major oil producing states, according to data from an updated American Petroleum Institute survey.

In fact, the survey of government and industry data for the first nine months of 1987 shows that overall U.S. economic indicators continue to reflect the pinch from the price downturn, API says. Bank failures, a key indicator, rose by more than two-thirds in the U.S. in the first nine months of 1987, according to the Federal Deposit Insurance Corp., with Texas and Oklahoma recording the highest number of such failures.

Particularly hard hit on the economic front are the oil patch states of Texas, Louisiana, Oklahoma and Arkansas, which have suffered 21.6% of the nation's business failures during the first eight months of 1987, as reported by Dun & Bradstreet, Inc. There were a total of 9,329 business failures in the region over the first eight months, an increase of 16.5% over the year-ago period.

"Business failures overall," says API, "according to Dun and Bradstreet continue to show the ripple effect in the first eight months of 1987 of stress created in the national economy from the downturn in the energy industry. The severity of the problem in the oil producing states is large enough to hurt non-producing states as well."

The hammer blow to domestic crude production and drilling activity caused by prices below $20 bbl. is also reflected in the latest statistics. Baker Hughes, Inc. reports that the monthly average of working rotary drilling rigs (onshore and offshore) is down 12.9% in the first nine months of 1987, compared to the period in 1986.

Photo By Paul Fusco Courtesy of BPAmerica, Inc.

Dropoffs in drilling activity and well completions add to oil patch woes.

API's own drilling well completion figures for the same period show a decline of 26%. Meanwhile, estimated domestic crude production is down by 459,000 b/d through the third quarter of 1987.

States surveyed include Alaska, California, Colorado, Kansas, Louisiana, New Mexico, North Dakota, Oklahoma, Texas and Wyoming. API counted business failures, bankruptcy filings, unemployment rates, rotary drilling rig counts, reported drilling well completions, crude oil production rates and bank failures.

State government revenues are hurting, too, in many of the states surveyed. A preliminary U.S. Census Bureau report of state tax revenue for the 12 months ending June 1987 showed declines in six of the 10 states surveyed. Alaska headed the list with a decline of 42%, followed by Wyoming (22%), Oklahoma (11%), Louisiana (9%), North Dakota (8%) and Texas (4%).

Although the unemployment rate has modified in many of the surveyed states, August rates, the most recent available, were still above the national unemployment rate of 5.8% in all states except California, Kansas and North Dakota.

The survey, "Energy and Economic Problems in the Oil Patch," is available from the American Petroleum Institute.

—By Donald M. Smith

Crude Production Rates—Top 10 Oil States

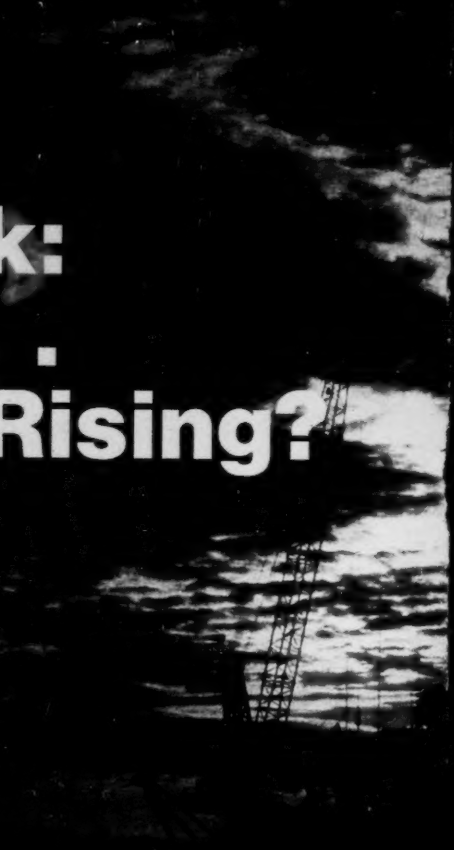
(Add 000)

	Estimated 1st nine months 1986 (b/d)	Estimated 1st nine months 1987 (b/d)	Annual All-Time High Production (b/d)
Alaska	1,858	1,938	1,865 (1986)
California	1,126	1,077	1,161 (1985)
Colorado	81	76	160 (1956)
Kansas	189	159	340 (1956)
Louisiana	1,383	1,316	2,562 (1971)
New Mexico	209	194	354 (1969)
North Dakota	127	116	144 (1984)
Oklahoma	416	361	761 (1927)
Texas	2,323	2,142	3,566 (1972)
Wyoming	338	302	439 (1970)
U.S.	8,744	8,285	9,637 (1970)

Source: The Department of Energy's Petroleum Supply Annual (1986 rates), The American Petroleum Institute Weekly Statistical Bulletin and the DOE Petroleum Supply Monthly (1987 rates), and *Petroleum Independent* magazine's *The Oil & Gas Producing Industry In Your State 1987-1988* (historical rates). Production rates expressed in barrels per day except as noted.

COVER REPORT

The 1988 Outlook: A Clear Horizon. . . Or Storm Clouds Rising?



By J. Richard Shaner
Executive Editor

Although such uncertainties as the Persian Gulf conflict, increased U.S. dependence on foreign crude, OPEC's capriciousness and a possible recession loom as a constant threat, the horizon of the year ahead looks clear and perhaps even bright.

Oil marketers—the tens of thousands of men and companies who slake the appetite of American industry and consumers with tens of billions of gallons of product—can pretty much expect the upcoming year to be ever so much like 1987.

In other words, continued improvement can be expected as the industry puts behind it the traumas of 1986, when international prices collapsed—as did just about everything else that mattered to domestic marketers and suppliers, independents and majors alike.

Here are some highlights of the year's expectations, as projected by federal government forecasters and others:

- Gasoline consumption will be about the same in 1988 as it was in 1987, which surprisingly

was about 2% better than 1986, a welcome increase.

- Distillate consumption will be up too, not much but nevertheless better than 1987. What little improvement there is, about 60,000 b d, will reflect increased industrial and diesel fuel consumption, not space-heating.

- Resid consumption will continue to erode although prices will remain steady.

- Gasoline prices will be up about 3c a gal. in 1988, but they'll still be pooping along well below 1985's $1.20 gal. level. Throughout most of the summer months, when consumption is highest, gasoline's average price for all grades and all services will coast along above $1 a gal. It attained that level in some places during third-quarter 1987 but slackened off by the end of the year.

- Distillate retails will rise too, notably in the first quarter of this year when they'll be worth about 85c a gal., minus taxes. They'll slump naturally during the summer months but may be able to hang in there at the beginning of the 1988-89 heating season at or near the 85c a gal. level.

- Margins will improve somewhat but since these vary from company to company and from region to region it's almost impossible to be precise about them. Perhaps the best way to size them up is to say that gasoline margins will be reasonable and distillates will be comfortable; which shouldn't make product marketers unhappy in the months to come.

- There's a caveat in this, of course, but the item of greatest cheer is that product marketing is scheduled to get its greatest financial infusion in history in 1988. The expectations are that suppliers and others will pour close to $4.9-billion dollars into new and improved facilities this year alone.

The projections for 1988 spending are significantly higher than those made last summer

Downstream investments could be highest ever

[*NPN*—July '87, p24]. At that time, capital expenditures were projected to range around $4.3-billion. Now the latest survey adds another $600-million to the forecast.

All-Time High

One of the exciting things about it all is that downstream's capital expenditures didn't break into the $4-billion a year category until 1987. Now the storyboard says they'll amount to $4.4-billion in 1987, $4.9-billion in 1988 (an all-time high) and $4.8-billion in 1989. These add up to $14.2-billion for the three-year period—as much as was spent on marketing and development in the preceding five or six years combined.

The $14.2-billion forecast also is roughly $1.4-billion higher than the one made last summer for the same three-year period. What this tacitly affirms and reconfirms is that competition out there is getting tougher and tougher and it's taking not only good product but also good-looking stores and pumps and sharp, high-class marketing to keep up with the Jones.

Many of these capital investment dollars also are going into underground storage tanks, where the problems seem to be unending even though the industry is trying to replace as rapidly as possible the potential leakers and aging pieces that might just become troublesome at any time.

The caveat in this rosy forecast on capital spending is the timing. McGraw-Hill's Data Research Inc., which has been making spring and fall surveys for nigh on to 40 years, says the questionnaires for the current survey were mailed out in September with a mid-October deadline, then delayed until early November.

Thus the questions were answered and the figures calculated before and during the period of the stock market upheaval in October and November. Some questionnaires were sent in late but there were few indications that any had been reevaluated in the light of the market crash. Consequently, there was no way to tell in this particular survey whether the shrinking of corporate stock values might dry up or defer some of the ambitious downstream spending plans.

A similar situation occurred in the fall 1986 survey. It was made just about the time that crude oil prices began their plunge to the pits, taking product prices and profits and exploration and production activities with them. So the survey wasn't too meaningful, other than an indicator of what might have been had the petroleum world not fallen apart in the early months of 1986.

Ups and Downs

Marketing is the only division of substance that's getting much help in 1988, according to the DRI study. Refining is slated to get a very modest increase, 2.9% this year and 3.1% next. What this means is that the industry apparently is going to sit tight on its current capacity, with little or no movement toward new or improved processing plants. The industry currently has only a moderate surplus which it is operating in the 80% to 85% range. There have been suggestions that perhaps some drawing-board planning should be in the works for refining facilities but the capital spending projections aren't very optimistic in this direction.

Exploration and production, which traditionally gets the lion's share of capital spending programs, is in for another tight year in 1988—perhaps the tightest yet in recent years. This is important because the U.S. drilling industry is barely alive anymore and U.S. production of crude oil is slumping badly. At any rate, the survey says exploration and production spending will be down to $18.7-billion in 1988. This would be 11.8% below 1987's $21.2-billion and 5.4% below 1986's traumatized reduction to $19.8-billion.

Next year, there's room for optimism, however. Planners indicate a 58.8% increase is in the wind for exploration and production in 1989, a forecast of $29.7-billion. Good news, indeed, for the beleaguered drilling industry if it's still alive and well 12 months from now.

The outlook for transportation expenditures is depressing. The cutbacks are expected to amount to 52.7% in 1987, 9.8% in 1988 and 12.0% in 1989. That peels transportation back to $1.4-billion in 1989, whereas it had been a happy $3.8-billion in 1986.

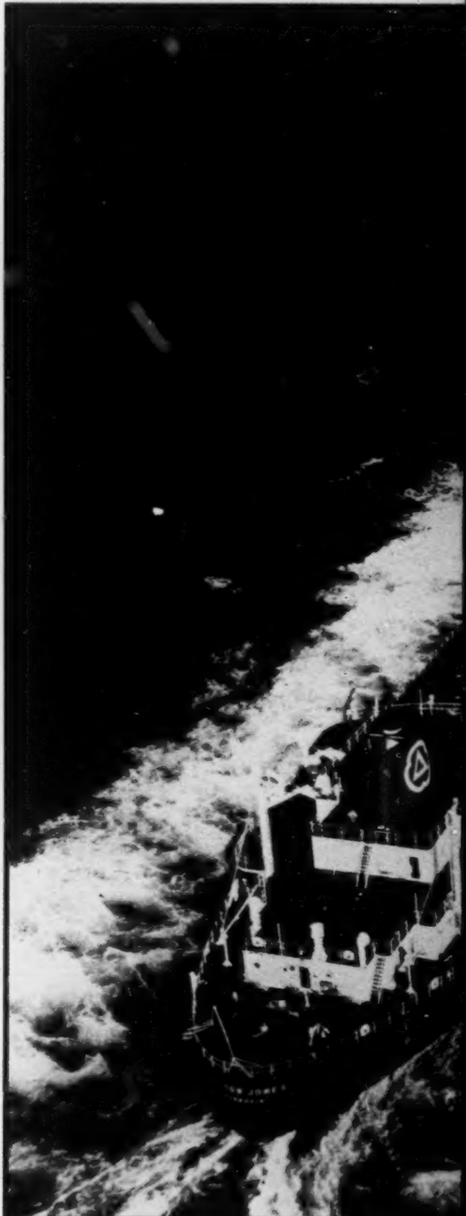
Transportation primarily involves crude and product pipelines, some marine facilities and some rolling stock over and above that used in marketing.

For the U.S. as a whole, oil's capital expenditures are scheduled to be $32.7-billion this year, down 5.7% from 1987, and $43.5-billion in 1989, up 33.0% over 1988.

Storm Clouds

The big question marks hanging over the industry like a multi-edged Sword of Damocles are those involving the American political scene, the Persian Gulf War and the Organization of Petroleum Exporting Countries.

This is an election year and with a weakened administration floundering to restore itself in its final year, and a host of candidates in both the Republican and Democratic arenas shooting acerbic criticisms and political arrows into the air, there's bound to be considerable confusion as to who's on first and who's running the

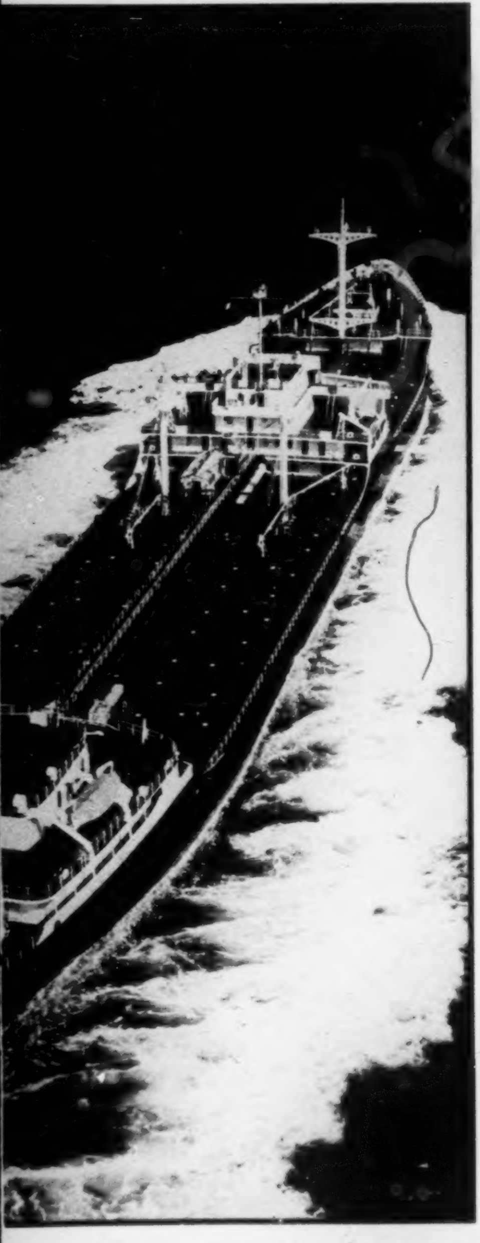


store. The lack of federal leadership also will impact heavily on regulatory agencies like the Environmental Protection Agency and Occupational Safety and Hazard Administration activities.

Normally, all these things would be taken in stride by the electorate but with the immensity of the federal deficit, and the shock waves generated by the October stock market tailspin, they're simply big black thunderheads that won't go away and loom ominously on the horizon.

One offshoot is that the steady increases in U.S. imports of crude and product are compounding the trade deficit problem. Commerce Department officials in Washington estimate that oil imports in 1987 will top $46-billion—almost $10-billion more than 1986. Thus oil is 11% of the nation's total import bill in 1987, and the outlook is for continued growth of this percentage factor through the year 2000.

The Persian Gulf War, which has been a negative backdrop for most of the past decade, blows hot and cold in its impact as Iran and Iraq maneuver for strong positions and each, with growing impunity, hit oil-tanker shipping in the Gulf with bombs, bullets and mines.



Diamond Shamrock
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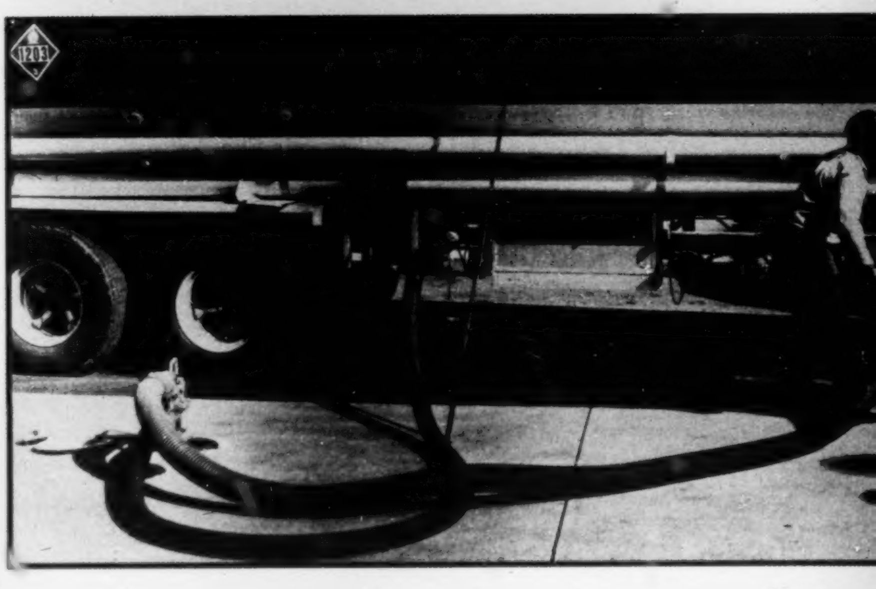
ICE



Hottest '88 issue: Stage II and air quality

Like a pervasive cancer, it's there, its dimensions are increasing and it has yet to respond to international pressures, medications and/or treatments of any kind. It could precipitate disastrous confrontations at any time, and it could go on for another year, just as it has over the past eight. The probability is that the latter will be the format for 1988, however.

The divisive attitude among OPEC's noisy membership continues to be the element that frustrates this group's desire to once again be dominant in the international scene. Among other things, Saudi Arabia appears to have lost its clout as the swing producer and Iraq has opened another pipeline to the Mediterranean. OPEC had another of its continuing "reconciliation" meetings scheduled for December but there was little expectancy that it would produce much more than table conversation.

Washington Scene

Congress undoubtedly will devote most

Federal Projections: Goodies Hard To Come By

BY THE YEARS

	Projections				History
DEMAND (million b/d)	1988	% Chng. '88 v '87	1987	% Chng. '87 v '86	1986
Motor Gasoline	7.14	(0.3)	7.16	1.8	7.03
Leaded	1.59	(1.0)	1.76	(19.8)	2.18
Unleaded	5.55	2.8	5.40	11.3	4.85
% Unleaded	77.7%	2.3	75.4%	6.4	69.0%
Distillate Fuel Oil	3.02	2.0	2.96	1.7	2.91
Residual Fuel Oil	1.22	(2.4)	1.25	(12.0)	1.42
Total U.S. (a)	16.51	(0.2)	16.55	1.7	16.28
PRICES (per gal.)*					
Motor Gasoline**	$0.99	3.1	$0.96	3.2	$0.93
No. 2 Diesel Fuel	.98	7.7	.91	3.4	.88
No. 2 Heating Oil					
Wholesale	.53	3.8	.51	4.1	.49
Retail	.83	5.1	.79	(6.0)	.84
Residual***	.43	2.0	.42	23.5	.34

BY THE QUARTERS

	1988				1987			
DEMAND (million b/d)	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Motor Gasoline	6.85	7.33	7.27	7.12	6.70	7.44	7.33	7.18
Leaded	1.60	1.70	1.60	1.48	1.73	1.89	1.71	1.71
Unleaded	5.26	5.63	5.67	5.64	4.97	5.55	5.62	5.47
% Unleaded	76.8%	76.8%	78.0%	79.2%	74.2%	74.6%	76.7%	76.2%
Distillate Fuel Oil	3.46	2.83	2.65	3.17	3.20	2.82	2.67	3.14
Residual Fuel Oil	1.46	1.17	1.09	1.14	1.38	1.16	1.23	1.23
Total U.S. (a)	16.81	16.24	16.26	16.71	16.34	16.43	16.65	16.76
PRICES (per gal.)*								
Motor Gasoline**	0.97	1.00	1.02	0.99	0.90	0.95	0.99	0.98
No. 2 Diesel Fuel	.95	.97	.99	.99	.89	.91	.91	.94
No. 2 Heating Oil								
Wholesale	.53	.53	.53	.54	.50	.51	.52	.53
Retail	.85	.81	.82	.85	.79	.78	.78	.83
Residual Fuel Oil***	.44	.42	.42	.43	.41	.43	.42	.44

(a) Includes all oils; * All prices include taxes except No. 2 heating oil; ** Average price for all grades and services; *** Average price for all grades of sulfur.

Source: Energy Information Administration, Short-Term Energy Forecast, dated October 1987, published in mid-November.

of its attention to politics this year but there's a laundry list of items that should provoke more heat than light, more "talk-talk" than decisions.

Among these are underground storage tanks and what EPA is really and truly going to do about them, including the suggestion that distillate tanks also should be made part of the program; hazardous substances and cleanups; Stage II and the ongoing dispute between oil and automotive industries over nozzle controls vis à vis on-board canisters; Reid vapor pressures; sulfur in diesel fuel; higher taxes for motor fuels and—more important—the acceptability of an imports tax on crude and products to help a beleaguered domestic drilling industry while at the same time doing something constructive about the gargantuan federal deficit that has become the hallmark of the Reagan Administration. The imports tax idea has been hot and cold but, given the right circumstances and the right time, it could be a 1988 happening that wouldn't upend American consumers.

Probably the hottest issue of 1988 will be Stage II and air quality regulations. EPA, last August, chose the on-board canister system over Stage II after much dilly-dallying. In late October, more than 40 representatives from oil, automotive, trade associations, environmental groups and agencies, equipment manufacturers and public interest groups argued the pros and cons at a two-day hearing.

A "final" ruling is expected early on in 1988. The assumption is that EPA will stick with its on-board canister decision. But again, EPA's track record on burning issues leaves much to be desired, so either the decision or the firmness of it may be delayed endlessly or watered down in the vain hope of pleasing all factions.

The Clean Air Act requirements are the big needle, however. Some 60 urban areas have indicated they cannot meet this January's federal deadline and with Stage II still inconclusively bouncing around out there, a need for local action is almost imperative.

An EPA proposal in late October calling for a delay of up to eight years in implementation of the act almost immediately generated a ground swell of protest from clean air activists and others, especially up in Congress and the Northeast. The probability is that some states and cities, including New Jersey and New York, will double-protect themselves against possible federal penalties by requiring emission-control nozzles in the interim, pending the arrival of a sufficient number of on-board canister vehicles to make the difference, probably around the year 2007.

Gasoline Grades and Quality

The introduction of more mid-grade unleaded gasolines and the continuing decline of regular leaded grades will be relatively routine in 1988. Federal authorities estimate that leaded regular will be down to roughly 20% of volume by next December, and that this erosion will continue throughout 1989, perhaps at a slower pace. The day that leaded regular will be a hard-to-find specialty product is not far removed, however.

Informal industry estimates indicate that the percentages of unleaded regular, mid-

Reserves Decline Again

U.S. proved reserves of crude oil declined 5.4% in 1986 primarily as a result of the collapse of prices at home and abroad that brought prompt curtailment to many drilling and production programs. Energy Information Administration says, however, that natural gas liquids (which are extracted from natural gas flows) were up 2.8% in 1986, giving the U.S. a total reserve of 35-billion bbl. of liquid petroleum. That's equal to about eight years of consumption based on current levels. Natural gas reserves were estimated at 191.6-trillion cf, down 0.9% from the previous year and continuing the decline of recent years.

1988 Margin Projections

GASOLINE	1986	1987	1988
Retail	10.0¢	6.5¢	8.0¢
Refiner	18.6	16.2	16.8
DISTILLATES			
Retail	31.3	28.2	30.1
Refiner	11.6	8.6	9.5

Source: Energy Information Administration, Short-Term Energy Outlook, October 1987, published November.

Will there be a mad dash for octane supremacy?

grades and premiums are too variable, company-by-company, and relatively too new to reach an industry consensus. However, a Texas engineering firm recently estimated that by 1992, the breakout will look like this: 87-regular, 50%; 89-mid-grade, 20%; and 92-premium, 30%.

This same firm sort of wondered out loud whether an octane numbers race may be in the making (See page 42). It noted that with the mid-grades coming on strong, many suppliers are moving firmly into the 92-93 octane area to meet the competition. Amoco, for one, was reported to be looking at a 94-octane for 1988 field-testing. This means they'll all be at the starting line in 1988 and with the pie continuing to shrink. It wouldn't take much to start them off in a mad dash for octane supremacy.

It will be recalled that in the 1960s, during another octane madcap era, many gasolines were sold as "100-octane-plus." But these were the octane numbers used in the research process. They were about 10 points higher than the other measurement procedure known as the motor method. In the early '80s, the federal government

Marketing Investments Hit All-Time Highs

(Millions of dollars)

■ MARKETING			
1989	(Planned)	$4,795	(−1.3)*
1988	(Planned)	$4,858	(+11.6)
1987	(Estimated)	$4,352	(+23.4)
1986	(Actual)	$3,526	(−3.8)
1985	(Actual)	$3,667	(+19.8)
■ TRANSPORTATION**			
1989	(Planned)	$1,432	(−12.0)
1988	(Planned)	$1,628	(−9.8)
1987	(Estimated)	$1,805	(−52.7)
1986	(Actual)	$3,815	(+0.5)
1985	(Actual)	$3,795	(+8.3)
■ EXPLORATION AND PRODUCTION			
1989	(Planned)	$29,702	(+58.8)
1988	(Planned)	$18,702	(−11.8)
1987	(Estimated)	$21,199	(+7.2)
1986	(Actual)	$19,775	(−40.2)
1985	(Actual)	$33,821	(+3.8)
■ REFINING			
1989	(Planned)	$2,206	(+3.1)
1988	(Planned)	$2,139	(+2.9)
1987	(Estimated)	$2,079	(−16.1)
1986	(Actual)	$2,478	(−26.6)
1985	(Actual)	$3,376	(+11.4)
■ OTHER***			
1989	(Planned)	$4,381	(−0.2)
1988	(Planned)	$4,390	(+2.8)
1987	(Estimated)	$4,269	(+4.8)
1986	(Actual)	$4,074	(−8.3)
1985	(Actual)	$4,442	(+4.2)
■ PETROCHEMICALS			
1989	(Planned)	X	X
1988	(Planned)	X	X
1987	(Estimated)	$1,012	(+17.6)
1986	(Actual)	$861	(−8.4)
1985	(Actual)	$940	(+48.7)
■ U.S. TOTAL			
1989	(Planned)	$43,528	(+33.0)
1988	(Planned)	$32,729	(−5.7)
1987	(Estimated)	$34,715	(+0.5)
1986	(Actual)	$34,529	(−29.9)
1985	(Actual)	$49,265	(+6.4)

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* Figures in parentheses indicate percentage change from previous year.
** Does not include gas pipelines.
*** Includes coal mining by oil companies.
X Insufficient replies to make valid projections.

Source: Data Research Inc./McGraw-Hill Inc. Thirty-sixth survey of Preliminary Plans for New Plants and Equipment 1985-1989, data collected in September-October and published in late November, 1987.

resolved the differences by adding the research and motor method numbers together and dividing the result by two. This resulted in a lower octane number for pumps. Looking back, if the old research number was 101 and the motor method number was 89, then the same divide and conquer formula would have produced an octane rating of about 95. Which isn't very far removed from what the current number could be in another year or so, if an octane war gets underway in 1988 or 1989.

Federal Predictions

Getting back to the short-term energy forecast of the federal government's Energy Information Administration in late October, here are some of the highlights:

World Oil Prices: Crude oil, about $18.50 bbl., which is about where it was in mid-November. Attempts have been made to get the price up to $20 bbl. but with 2-million to 3-million b/d of excess crude available on the foreign marketplaces, there's not much likelihood that increases will happen without a shortening of supplies.

Product Prices: Gasoline prices, moderated last summer by a stubborn overhang of inventories, should nevertheless rise by 3¢ a gal. in 1988 despite almost no change in crude costs. For 1988, stock levels are assumed to return to normal as markets clear, leading to an opportunity for higher margins. Prices should peak in the summer months of 1988 at $1.02 a gal.

Heating oil prices for the current winter period contain both good and bad news for consumers. The bad news is that prices seem likely to increase as much as 9¢ a gal. over last winter. The good news is that more than half of the increase has already been felt. The average price increase should be only 6¢ a gal. for the rest of this winter and for the year as a whole, the average increase will be leveled off to about 4¢ a gal.

Product Demand: Gasoline demand will probably flatten out this year, winding up a fraction of a percent below last year. This despite the fact that automotive travel will be about 4% higher than 1987, which was about 5% above 1986. Smaller cars and the increasing efficiency in vehicle operation should offset the higher mileage. Distillate demand is expected to average about 3.0-million b/d in 1988, about 2% more than 1987.

Overall Outlook: Mostly sunny, with a small chance of precipitation. All in all, a lot like last year.

Economist Says Stock Crash Won't Impact Heavily on Oil

DRI Energy Oil Service believes the recent stock market crash will not affect energy markets as much as it has the basic U.S. economy.

Issued in mid-November, the DRI statement says: "The crash will further weaken OPEC's ability to significantly raise oil prices because of expectations of lower world economic growth and oil consumption."

The statement added: "The drop in economic activity becomes muted as it is translated into energy prices. We have lowered our crude oil price forecast by 50¢ bbl. to $1 bbl. for 1988 and 1989. This translates into a reduction in our forecast of about 2.5¢ a gal. for gasoline and 1.5¢ a gal. for home heating oil. We still expect gasoline and heating oil price increases from 1987 to 1988 of about 5% for the next two years, slightly below our previous forecast."

In another non-related forecast, security analyst Joel Fischer, a vice president of Drexel, Burnham and Lambert, Inc., New York, concurs in the concept that while capital budgeting decisions will be revised by many businesses, the net impact on oil's will be "of quite limited proportions."

The industry, he said, has been dealing with shrinking markets since 1979 and with shattered expectations and deflation in its price structure since 1981.

But Fischer also makes the point that the "restructuring of the U.S. and the world oil industry" isn't yet over. "Over the coming 10 years," he said, "we will probably witness the disappearance of more of our remaining medium-sized and regional oil companies as a correlate of the drive for control of outlets if not for control over reserves."

Given the limited prospects for discovery of truly great reserves at non-OPEC frontiers, he said, "purchase of reserves may well appear more attractive than exploration to the industry giants."

American Petroleum Institute president Charles J. DiBona told an international energy conference in London in late October that "currently, U.S. oil imports are running about 44% of the nation's total and we are rapidly approaching the 48% all-time high reached in 1977."

About the same time, Texaco Inc. chairman Alfred C. DeCrane, Jr., told a Texas meeting that a "new oil crisis" is in the making that could endanger "not only our economic security but our national security as well." He asserted: "Clearly, America can never be totally independent of foreign petroleum supplies. But the more dependent we become on others for our energy, the more we lose our ability to make independent decisions in foreign policy and other areas."

On the other hand, Mobil Oil chairman Allen Murray, saying he was "not an alarmist," told the recent Petroleum Marketers Assn. of America convention in Dallas that "in the year 2000 all of the energy resources we need will be available at reasonable prices." He also questioned the validity of the concept that a 50% import level created vulnerability problems for the American people.

Chevron Corp., in its annual update of its world energy outlook, said OPEC "has sufficient reserves to control supply and, therefore, price. . . from now until the year 2000." Chevron said that a price range of $15 bbl. to $30 bbl. would be all that was needed for OPEC to retain control.

One of the major questions facing the oil industry today is whether the traumatic events of the past 14 years have changed the pattern of relatively stable prices, the update said, citing these points as "critical factors":

- For the first time in the industry's 125-year history, the cost of discovering a barrel of oil is higher than the cost of a barrel currently being consumed. Moreover, while already discovered oil reserves are for the most part producible at current prices, exploration for new, frontier fields will require higher prices.
- The increasing concentration of crude oil reserves in relatively few areas—most notably the volatile Persian Gulf—will make it easier for countries in those areas to exert political control over prices.

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How New A/V Unit Adds Sales At Pu
Why Jobber Sells Gourmet Food and
Government Owned Oil Company Fares Well

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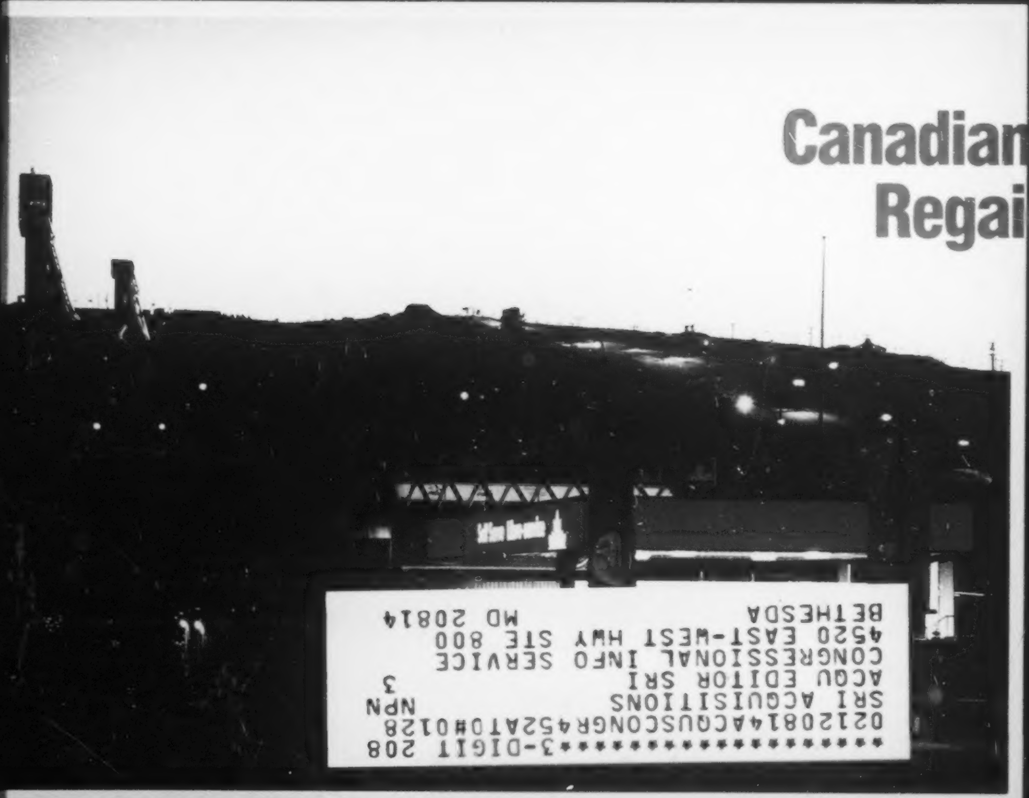
NPN

National Petroleum News

Stop'n Shop
Full Serve



Canadian Marketing Regains Stability

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NATIONAL PETROLEUM NEWS
Established in 1909

VOL. 80 NO. 2

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Editor's Viewpoint

Gasoline and fuel oil marketers are hopeful that another situation is shaping up that will give them the very fat margins they enjoyed briefly in early 1986 when the bottom dropped out of world crude oil prices. However, competition was already stripping away margin gains last month.

The gasoline marketers appear to be in danger of losing more than a brief period of fat margins, too. In January, the trend of posting retail prices for unleaded gasoline at or close to leaded regular appeared to be spreading from big-city markets out to smaller ones. This could wipe out solid margins that have existed for some time on unleaded.

Two years ago, when world crude prices took a nosedive, rack-to-retail spreads were as much as 25¢ to 35¢ a gal. for a short time, 15¢ to 25¢ a gal. over "normal." This happened because crude oil and wholesale product rack prices dropped faster than retail pump postings. A similar situation developed in December. Crude oil postings dropped to about $16.50 to $18 bbl. and refiner rack prices tumbled to around 45.5¢ gal. for gasoline and 52.5¢ for heating oil/diesel in key markets east of the Rockies.

As 1987 came to an end, marketers in some areas were once again enjoying very good margins. The spreads between wholesale racks and pump postings in some parts of the East were in the 25¢ gal. or better range, while some Eastern consumers said they were paying around 90¢ gal. for heating oil at a time when New York Harbor prices were quoted at around 52.55¢ gal.

Some marketers believed spreads between pumps and wholesale racks might widen even further in January. "The world is awash in both crude oil and products, and Iran and Iraq need more money," said a Southeast independent. "I think we'll see $10 to $12 bbl. crude by the end of January."

Retail pricing patterns that began developing in December could quickly erode any margin cushion that a crude oil price drop might bring, however. Price spreads between leaded and unleaded gasoline were disappearing in the Southwest and possibly elsewhere. In East Texas, for example, some independents were posting prices as low as 77.9¢ for both grades at year's end. Previously, most had been posting unleaded from 3¢ to 5¢ over leaded.

The deterioration of unleaded margins will hurt. Some indies report unleaded now runs about 88% of their total sales. If unleaded regular becomes their new "loss-leader," as seems probable, their "composite" or average margins will be adversely affected.

—Frank M. Victoria

National Petroleum News (NPN) (ISSN 0149-5267) is published monthly by Hunter Publishing Co., Inc., 950 Lee Street, Des Plaines, Illinois 60016. (312) 296-0770.

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.

Basic **subscription rates** for one year to individuals in the petroleum marketing industry are: U.S. $54, Canada $63 (U.S. $), Foreign surface mail $69 (U.S. $), Foreign airmail $104 (U.S. $). Non-industry personnel rates for one year are: U.S. $69, Canada $78 (U.S. $), Foreign surface mail $84 (U.S. $), Foreign airmail $128 (U.S. $). **Single copy price:** U.S. & Canada $8.00 (includes first class postage). Foreign $10.00 (includes airmail postage). **Mid-June Factbook:** U.S. $50, Canada $60, Foreign $70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. **Change of address:** Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (312)296-0770, 9 a.m. to 4 p.m.

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MOHAWK
Stop'n Shop

Earnings are up, prices have improved, product demand has stabilized and Canadian oilmen are optimistic for the first time in years. **Page 26**

Following a series of major acquisitions, Petro-Canada, the government-owned oil company, has become a dominant force in the Canadian retail market. **Page 34**

York Oil in Hampton, Va., offers gourmet foods and a large selection of fine wines at what the company calls "the world's most unusual gas station." **Page 46**

• TRENDS

Will Royal Dutch Shell or BP Scuttle Texaco?

No one questions that Texaco Inc. will be put through the dawgondest wringer of them all this spring, summer and fall. What makes it more interesting, however, is that some people out there are already hypothesizing whether Texaco Inc. will be able to survive the mayhem. The $64 question: Will Texaco Inc., as it's now constituted, still be in business as a corporate entity by the end of this year...or will it already have been drawn, quartered and sold off piecemeal?

Bosh, you say. Idiotic pipedreams; that's all.

Hah, these people say. Go back to Pittsburgh, Pa., and ask the people there about the dismemberment of their beloved Gulf Oil Corp. Have the natives of Bartlesville, Okla., tell you what almost happened to Phillips Petroleum and their pleasant little company town. How about the narrow escape that Union Oil had? Remember Marathon and Conoco? They were bought up by outsiders. What about Citgo, which was gobbled up by Occidental Petroleum then dismembered and sold?

Texaco is likely to emerge from Chapter 11 bankruptcy this spring, weak, battered and poorer by $5-billion to $6-billion in the settlement of its four-year-old legal battle with Pennzoil Corp. (See related item on page 8). It faces a strenuous, uphill battle, however, to regain its stability and/or retain its ranking as a top drawer oil company domestically and internationally.

For example, corporate raider Carl Icahn's not only in the house already, he virtually has both feet under the boss's desk, pressing for massive financial restructuring and/or piecemeal sale of selected assets or the corporation itself. Icahn is not noted as a patient investor. He wants action and short-term pots of gold now, not next year.

There's no shortage of entrepreneurs like him—and some oil companies too–that are solely interested in getting pieces of the action that'll suit their own short-range goals–crude reserves, marketing facilities or just plain money.

One of the many scenarios being bruited about privately these days is a real humdinger. It suggests that two of the three biggest oil companies in the world will be fighting over Texaco by late spring or early summer. Both are British conglomerates and won't that be fun if this twosome really has a go at each other and the U.S. marketplace? The two companies are Royal Dutch Shell, which owns Shell USA outright, and British Petroleum Ltd., which last summer bought up total control of Standard Oil Co., formerly Sohio. Royal Dutch is fiercely proud of Shell USA's leadership as the nation's No. 1 gasoline marketer and reportedly has up to $8-billion readily available for investments here and abroad as it sees fit. BP London, which spent $7-billion last summer to convert Standard to a fully owned subsidiary, is said to be meticulously redesigning its BP USA image and ambitions for major incursions in local markets.

Is it illogical to think that BP London could be perhaps envious of the successes of Shell USA? The history books are full of stories about how British overlords expanded footholds around the world in the past, competing with each other and the locals alike for dominance. Is it hard to imagine that their 20th century counterparts are plotting their "Buy American" campaigns now in their plush London headquarters, waiting an opportune time to move? Shell, no doubt, could use more Grade-A service stations and some additional crude oil reserves, of which Texaco has an abundance. And what could be better for BP than a coast-to-coast chain of service stations that could overnight put it on equal footing with Shell USA?

Texaco, while not down and out yet, is still in big trouble. Any head-on fight between a Shell and a BP for its carcass or any combination which would take either of them and somebody else as a partner could lay Texaco low in short order and put the parts and pieces on the block. Ready for another one? About the only thing the well-heeled Japanese haven't bought yet is an American oil company. They already own the old Exxon and Mobil buildings in midtown New York. Is there a "Nipexico" in the making out there?

—J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

NOVEMBER	**Gasoline (All types)**	**Leaded Regular**	**Unleaded Regular**	**Unleaded Premium**
U.S. City Avg.	$0.987	$0.928	$0.976	$1.125
Regions				
Northeast	1.016	0.941	0.987	1.142
North Central	0.999	0.953	0.996	1.134
South	0.981	0.909	0.968	1.116
West	0.963	0.923	0.956	1.112

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (add 000 bbl.)

	1/1/88	**1/2/87**
Gasoline (total)	227,461	233,871
Gasoline (unleaded)*	135,518	130,593
Jet Kerosine	43,920	42,262
Distillates	136,670	153,552
Residual	46,148	43,193

** Included in gasoline total.*
Source: American Petroleum Institute.

Oklahoma, Louisiana, New Mexico and the Gulf of Mexico. Some TV news reports, in summarizing the deal too concisely, almost made it sound as though Amoco had bought all of Crown.

Texaco buys 37 C-stores in Tampa, Fla., area

Texaco, which already has more than 900 Food Marts in its C-Store chain, has paid Sparky's, Inc. $22-million for 37 units in and around Tampa, Fla., and "quite a bit of real estate" as well.

The stores are credited with pumping around 2.5-million gal. to 3.0-million gal. of gasoline monthly. All will be converted to Texaco Marts, it is understood. Six other stores in the chain which were not purchased by Texaco will continue being operated by Radiant Oil Co., Tampa.

Mobil wins $2-million from coastal mining suit

A "wrongful mining" suit that it pressed for 10 years against Mobil Corp. has cost Coastal Petroleum, Houston, about $2-million to enable the big oil company to recover some of its litigation costs.

The suit involved phosphate operations in Florida. Coastal dropped the suit last summer, and in early December Circuit Judge J. Hall, in Tallahassee, Fla., handed down his award for Mobil.

Not A 'Grinch,' Chevron says in Xmas tree byplay

When Chevron management questioned the safety aspects of Christmas tree sales at a busy service station in Florida in December, some local townsfolk said the corporation could be likened to a "Grinch," the storybook Seuss character that tried to steal Christmas; or, at best, the Scrooge of "Bah Humbug" fame.

Not so at all, said Chevron management, which insisted that its prime concern was the possibility of accidents at the station, due to the increased vehicular traffic and the number of people on the scene.

Local citizens and Mayor C. Flanagan protested that the lot was safe and that there should be no problems. Corporate Chevron yielded to the spirit of the season and the tree sales were allowed to continue under the auspices of the vendor and the Boy Scouts, who shared the work and the earnings.

The branded station is located at Pembroke Pines, about halfway between Miami and Fort Lauderdale.

Critical issues pose threat for indies: SEOMA

There are at least 10 governmental issues which pose survival problems for independent marketers in the Southeast, according to a membership poll by the Southeastern Oil Marketers Assn.

Participants were asked to rate the issues as minor, major and/or so serious that they could put the respondent out of business. Here's the way they voted:

Issue	Survival Threat
High mandatory tank leak insurance	100%
Short tank replacement schedule	100%
Stage II vapor recovery	86%
Increased minimum wage	79%
Prohibit beer where gasoline sold	71%
Prohibit cold beer with gasoline	71%
Refiner collection of gasoline taxes	71%
Overtime for C-Store managers	71%
Mandatory employee health insurance	71%
Overlapping tank responsibility	64%

In another phase of the survey, the respondents were asked to rate the non-governmental items which were likely to have serious effects on their business operations. Here's the way they ranked these problems:

Issue	Percentage
Lawsuits and high cost of liability insurance	100%
Unfair competition by refiners	86%
Federal budget deficit	71%
Crime	71%
Lack of or high cost of capital	64%

By Wayne Beamer

SOUTH

Stage II May Be Under Consideration For Houston's Environmental Plans

Due to difficulty in developing a state implementation plan (SIP), the Texas Air Control Board may be forced to consider controversial and costly Stage II controls in Houston.

Environmental Protection Agency administrator Lee Thomas notes Houston "is up at the top" of a list of cities that are going to have a hard time maintaining the ozone standard, according to a story published in the *Houston Chronicle*.

Houston is one of many urban areas around the country that will have three years to finalize a new SIP due to EPA's recent extension of the Clean Air Act [*NPN*—Dec. '87, p9].

Stage II "could be needed" in Houston, says Jim Gise, director of TACB's control strategy division in Austin. But a state law, passed by the 1987 Texas legislature, forbids Stage II implementation except by a federal mandate.

TACB board member and north Texas marketer Bill Quortrup speculates Stage II won't be an integral part of Houston's SIP. "Stage II is not the most viable of options. They'll have to look at the whole laundry list."

Although Stage II is part of a recently revised Dallas-Tarrant County SIP, Quortrup points out it is "a dead issue." Even

Service Station Population Slips Again, Hitting Historic Low Point

Federal statisticians say 5,000 more service stations vanished from the nation's streets and highways in 1987 and, unless the long awaited bottoming out comes to pass soon, another 3,000 will bite the dust by next Dec. 31.

The drab summary and projections are contained in the latest report of the U.S. Commerce Department's "Franchising in the Economy 1986-88," which is to be released early this month. The new study says the decline in 1987 was a bit sharper than it had forecast last year. It had expected a drop of about 3,000; instead it was closer to 5,000 units.

But, as in the past, not all of this is bad news. Many of the smaller stations are still being replaced by bigger, fancier outlets fully capable of handling the neighborhood and transient gallonage and customers. In other words, where three or four smaller stations may have disappeared, one big 200,000 gal. a month unit probably replaced them. This procedure has been going on for the past decade so there is nothing new or surprising in it.

A recent update by McGraw-Hill, Inc., for example, said that U.S. oil companies had scheduled the biggest investment in marketing facilities in history for the 1987-88-89 periods. These marketing expenditures exceed $14-billion for the three-year period, much of it going into new and modernized stations, pumps and other customer-oriented services. [*NPN*—Jan. '88, p34].

Lowest in 60 Years

The new federal forecast anticipates a service station population of 112,000 by the end of this year. This will be the lowest number since the mid-1920s. The American Petroleum Institute's Centennial Yearbook, published in 1959, indicates there were 121,513 service stations in 1929. Data before that time are lost in the clouds of antiquity.

The 1988 projection means the U.S. service station population has been literally cut in half since the all-time peak of 226,500 outlets in 1972. Most of the stations that vanished did so in the late '70s and early '80s when the "Mom and Pops" and the 10,000 gal. a month units were simply unable to survive in the traumatic atmospheres of shortages, excesses and changing economics.

A point to remember, to keep all these dour numbers in perspective, however, is that the Commerce Department statistics identify "service stations" as those that generate 50% or more of their revenues from the sale of gasoline and oil products. This is the same definition that is used by the Census Bureau which currently is engaged in making the nose count it is required to do at five-year intervals. The Census Bureau numbers are not expected to be available until sometime in 1989 at the earliest, however.

C-Stores Are Ignored

Thus, this Commerce Department report excludes the convenience stores and other independents, such as automobile dealerships, garages and mass merchandisers who also sell great volumes of gasoline but as a secondary cash-flow activity. The convenience store industry retails gasoline at a little more than half of its population which is now estimated at 75,000 stores.

If these 37,500 stores are added to the Commerce Department estimate of 112,000 stations by next Dec. 31, it would give motorists at least 150,000 places where they can buy motor fuel at this time. Throw in maybe another 15,000 to 20,000 or so for mass merchandisers, garages, dealerships, truck stops etc., and the public total likely could be around 165,000 to 170,000 now.

Hunter Publishing Co. Inc., NPN's corporate parent, says the gasoline retail outlet universe was somewhere around 186,000 early last year. Its study gave 127,300 as the total for traditional service stations, 55,700 for convenience stores and mass merchandisers, and 3,000 for truckstops.

Absolute statistics for the service station world are virtually impossible to come by. The federal studies, even including the official U.S. Census Bureau nose count, contain estimates of one sort or another for some groups. There's no getting around the fact that no one has hard and fast numbers on the population; only estimates.

Dollar Volumes Grow

The dollar sales at the nation's service stations were not as great as had been expected, even though they were high and still growing.

The January 1987 report, for example, said gross sales at the stations would be $90.3-billion in 1986 and $94.9-billion in 1987. Instead, the new study said they amounted to $86.6-billion in 1987 and would rise to $91.9-billion this year. The revisions can be accounted for easily by the collapse of product prices in early 1987 and the depressed levels that still continue to this day. Prices generally are improving but they're still way below the highs registered before the market downfall in late 1986 and throughout most of 1987.

In the same vein, the average dollar volume per station also suffered in 1987 and, while higher in 1988, still won't be as good as had been projected in January of last year for 1987.

The previous forecast had anticipated an average of $811,000 per store in 1987. Instead the new number was $769,975, some $40,000 less per store.

C-Store Growth

As one of its many projections, the franchising forecast also delves into the world of convenience stores. However, these numbers should be considered more as trends than actual statistics. The problem here is that the study only counts franchised establishments and the totals therefore are only about 20% of the real world. The convenience story industry says it has a population of 75,000 now.

Nevertheless, the franchised stores show continued growth from 1986 through 1988. The franchised universe is reckoned at 17,211 stores in 1988, up 5.6% over 1987. Total sales dollars projected for 1988 are $13.6-billion versus 1987's $12.3-billion. The average per station is estimated at $787,959 in 1988 and $756,257 in 1987, a growth of 4.2%.

—By J. Richard Shaner

Many smaller stations are being replaced by larger, fancier outlets.

AMOCO
Amoco
Self Serve
Food Shop

ROAD PANTRY

1988 Outlook: Service Station Dollars Up, Population Down

	1988	1987	1986	% Change 1988-87	% Change 1987-86
No. of establishments (a)	112,000	115,870	120,510	(3.3%)	(3.8%)
Company-owned	20,160	20,857	21,692	—	—
Franchisee-owned	91,840	95,013	98,818	—	—
Total sales of products and services ($000,000)	$91,894	$89,217	$86,618	3.0	3.0
Company-owned	16,541	16,059	15,591	—	—
Franchisee-owned	75,353	73,158	71,027	—	—
Average per station	$820,482	$769,965	$718,762	6.6	7.1

(a) As of Dec. 31 of each year; service stations as defined by Commerce and Census Bureaus, i.e., 50% or more of their income from gasoline sales.
Source: "Franchising in the Economy 1986-88," U.S. Dept. of Commerce, February 1988.

Franchised C-Stores: Steady But Not Spectacular Growth Foreseen for 1988

	1988	1987	1986	% Change 1988-87	% Change 1987-86
No. of establishments	17,211	16,298	15,524	5.6%	5.0%
Company-owned	9,598	9,254	8,974	—	—
Franchisee-owned	7,613	7,053	6,550	—	—
Total sales of products and services (000,000)	$13,562	$12,325	$11,279	10.0	9.3
Company-owned	7,857	7,283	6,732	—	—
Franchisee-owned	5,704	5,042	4,547	—	—
Average per store	$787,959	$756,257	$726,546	4.2	4.1

Source: "Franchising in the Economy 1986-88," U.S. Dept. of Commerce, February 1988.

The Rise and Fall of U.S. Service Stations

	No. of Stations (a)			Sales (000,000)		
Year	Total	Company-owned	Franchisee-owned	Total	Company-owned	Franchisee-owned
1988	112,000	20,160	91,840	$91,894	$16,541	$75,353
1987	115,870	20,857	95,013	89,217	16,059	73,158
1986	120,510	21,692	98,818	86,618	15,591	71,027
1985	124,600	22,428	102,172	100,492	18,089	82,403
1980	158,540	30,122	128,418	96,338	18,304	78,034
1975	189,480	37,896	151,584	47,387	9,477	37,910
1972	(b) 226,459	44,200	176,259	33,656	6,812	26,844

(a) As defined by Census Bureau; (b) Peak year.

Canada's Petroleum Industry Getting Back on Track

Canadian oilmen are a tough-minded breed. No one has had it easy in the oil business in the past 15 years or so, but for Canadian marketers it has been an almost uniquely turbulent and difficult stretch of time, characterized by slumping product demand, a dwindling downstream asset base, anaemic earnings, disruptive government policies, plus the usual disputes between retailers, independents and suppliers. The situation for many marketers has been especially rough since the onset of the 1980's.

Yet, as the new year begins to unfold and the world's attention is riveted on the 1988 Winter Olympics in Calgary, there are unmistakable signs that Canada's petroleum industry has adapted itself to the new realities of the oil market and is moving ahead again into an era of steady, if not spectacular, production, sales volumes and earnings.

"Industry prospects look considerably brighter today than they did just a year ago," was how Imperial Oil Ltd. chairman Arden R. Haynes described the situation before an industry group recently. Among the positive factors he noted were increases in drilling rig activity, announcements of major capital expenditures by oil firms and a new government/industry climate with an emphasis on market pricing and where "revenue sharing terms . . . are more favorable than they have been for quite some time."

Changes in governmental policy, keyed to reduced intervention and taxation, have created a more favorable climate for petroleum investment, Haynes said, "one that makes $18-a-barrel oil seem much more attractive than it would have been several years ago." He noted that Imperial, like several other companies, "is doing quite well at current price levels."

It's been a bumpy road to financial health for many firms. Renewed vigor in the marketplace has been accompanied by intense competition, widespread staff cutbacks, an on-going "rationalization" of refineries and marketing assets, plus a substantial pullback in upstream investments for exploration as companies trim their sails more for short-term cash generation rather than riskier long-term resource development.

By Donald Smith
Senior Editor

What's happened, in short, to Canadian companies is a massive shift to the "leaner and meaner" operating profile that is now so familiar to U.S. oil companies. It's an "overdue and much-needed shakeout," in the words of one industry observer, leaving Canadian marketers more efficient, innovative and responsive to changing market conditions.

The internal surgery has apparently been a success for many of the larger Canadian companies. Most reported increased sales and earnings through the first nine months of 1987, on top of generally improved performances in 1986.

Imperial Oil, the largest Canadian oil company, says it had operating profits of $568-million (Canadian dollars), an increase of $256-million over the same period in 1986. Downstream earnings—Imperial markets under the Esso Petroleum brand—were up, too, increasing $21-million to $159-million. Product sales were up 8% over the period.

Better earnings allowed Imperial to invest a record $1.4-billion in 1987, according to the company's chairman.

Petro-Canada, Inc., the government-owned oil company and number two in the Canadian pecking order (number one in gasoline), doesn't disclose quarterly earnings (See related story on p34), but Petro-Canada Products president Robert Mayo said nine-month earnings were "directionally better" than 1986.

Shell Canada Ltd., the number three company, said its nine month-earnings improved $187-million to $261-million. Downstream profits of $75-million were unchanged, mainly due to "continuing intense price competition," the company said.

Texaco Canada Inc.—the subject of much buyout speculation these days following the Texaco/Pennzoil settlement—had a net income improvement of $23-million to $231-million in the first nine months of 1987 and an increase of $10-million to $55-million in downstream sales.

Suncor Inc. (Sunoco), one of the largest regional refiners in Canada, saw its earnings increase to $62-million in the first nine months from a $13-million loss in the year-earlier period. Downstream earnings were equally dramatic, improving threefold from 1986 to $31-million in 1987.

MOHAWK
Stop'n Shop
Dual Serve

Mohawk Oil's restyled "Chief" symbol sets tone for company's new image program.

Canadian companies have also been buoyed by a recent stabilization in petroleum product demand, or what Robert Mayo refers to as a "bubble" in product sales. According to the Energy Section of Statistics Canada, total refined product demand increased by 3% to about 417-million barrels through October, 1987 compared with the same period in 1986. Retail gasoline sales increased 1.6% to 131-million barrels in the same time frame.

Refinery production, too, was up to about 422-millions barrels in the first nine months of 1987, Statistics Canada reports, an increase of almost 6% over the same 1986 period. Crude imports were up by 11% through September, 1987, reaching a total of 106-million barrels. Still, Canada is less dependent on imported oil than the U.S., needing only about 25% from foreign suppliers as compared to a U.S. import dependancy level that has passed 40% and is still climbing.

The bubble in product volumes has been an encouraging sign to Canadian marketers who have been battered by a downswing of 25% in demand from the peak year of

MOHAWK
Full Serve
Stop'n Shop

One of Canada's largest independents, Mohawk is diversifying into new service areas such as Stop 'n Shop Stores with in-house bakeries.

1979 through 1986. Most observers, however, agree that the market has "matured"—much as in the U.S.—and they anticipate only marginal increases (less than 1% per year) in demand over the long term.

Generally improving economic conditions in Canada are expected to bring modest increases in gasoline, diesel, aviation fuel and lubricant sales in the next few years. This will be offset somewhat by a continuing decline in fuel oil and heating oil, which were victims, in part, of a shortage-induced "off oil" campaign aimed at switching consumers to other energy sources.

Rationalization

Canadian oilmen cite more stable prices, the modest increase in product demand and new business initiatives as lynchpins in their generally improved financial performance. However, the trimming and prunning involving company staffs, wholesale and retail assets, resource investments and the like has also clearly had a positive impact on the companies' profitability.

The shakeout really got underway around the beginning of 1986 when the bottom dropped out of crude prices.

Petro-Canada, for one, said it had reduced its "staff complement" by 23% in 1986, combined with a 37% decrease in capital expenditures. Texaco reduced its staff by about 300. Imperial slimmed down its work force by 16% in 1986 (and operating costs by $91-million) and Suncor has cut its staffing by 15% since the beginning of 1986. Shell, however, had a staff reduction of less than 2% for the year.

Stephen O'Farrell, marketing vice president for Texaco Canada, says the company's marketing department has been trimmed by 30%. "We've de-layered the department," he says. "There are now only three staff layers—general sales manager, division manager and sales supervisor—between me and the field. It's a lot more efficient now."

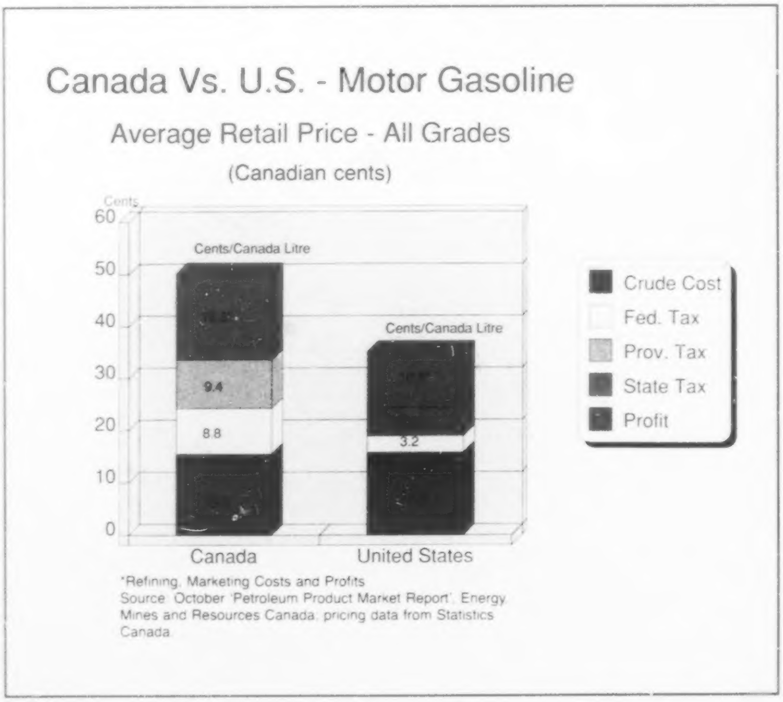
Refineries and marketing assets have felt the ax, too. Thirteen refineries representing 20% of Canada's total capacity have been shut down in the past decade as companies have struggled to get utilization rates up to acceptable levels in an oversupplied market. Utililization is now running at about 80% of capacity.

The "rationalization" of Canadian service stations has been even more dramatic, dropping from a high of 35,000 in the early 1970s to a current total of about 20,000. Texaco, for example, dropped from 2,800 stations four years ago to its present 2,080.

Painful steps, perhaps, but necessary in the eyes of Canadian petroleum execs. "Those (rationalization) measures brought us into 1987 very lean and very trim and gave us tremendous leverage to benefit from any sustained inprovement in crude oil prices," says Imperial's Haynes.

A Different Market

There are similarities between the two



*Refining, Marketing Costs and Profits
Source: October 'Petroleum Product Market Report', Energy Mines and Resources Canada; pricing data from Statistics Canada.

Four firms control 62% of the retail market

Gulf
Self Serve Reg 52
Ultramar

Acquisition of 662 Gulf Canada service stations in 1985 made Ultramar Canada the No. 1 petroleum products distributor in Quebec and Atlantic Canada and triggered a massive rebranding program.

markets, but it would be inaccurate to view the Canadian market as a mirror image of the U.S. market.

"For a number of reasons, the market has evolved differently up here," say Ford Ralph, vice president of marketing and development for Petro-Canada.

Here are some of the major differences:

- Geography and population are major factors. Although it is the largest country in the Western Hemisphere, Canada's population is only 10% of that of the U.S. As one observer put it, "it's a California-sized market spread over 3.8-million square miles."
- The Canadian market is dominated by a small number of major national and regional refiners. "It's an oligopolistic market compared to the U.S.," says James R. Conrad, executive vice president of the Petroleum Marketers Assn. of Canada, an independent marketers group based in Toronto.

According to Kent Marketing Services, Ltd., a London, Ontario-based investment and market research firm that monitors over 8,000 retail outlets in 100 markets, the big four national refiners—Esso Petroleum (Imperial), Petro-Canada, Texaco Canada and Shell Canada—had a combined 60% of the branded gasoline market in the most recent reporting period (third quater 1987), plus another 2.1% share in secondary or unbranded sales.

By comparison, eight major companies in the U.S. together control barely 50% of the retail gasoline market.

Meanwhile, five regional refiners—Ultramar, Husky, Irving, Chevron and Sunoco—had a 13.1% share in primary branded sales and another 1% in unbranded, according to Kent's third quarter stats.

Thus, major and regional refiners together accounted for about 76.3% of the retail gasoline market, leaving a 23.7% share for about 75 independent marketers.

In the overall category of light oils (gasoline, jet fuels, middle distillates, light heating oils), seven refiners had a whopping 91% market share at the beginning of last year, alloted as follows: Esso, 26%; Petro-Canada, 23%; Shell, 17%; Texaco, 12%; Ultramar, 8%; Sunoco 4%; and Husky, 1%.

- There is no U.S.-style branded jobber network in Canada nor is there a prevailing rack pricing system throughout the country (although a few companies have instituted rack price programs). Independents function mainly as private brand resellers, buying product from one or more suppliers for resale under their own brand. Independents range in size from small firms with several stations to regional companies such as Mohawk Oil Co. Ltd. with several hundred outlets.

- Foreign ownership of Canadian petroleum assets is widespread. It is estimated that 45% of the country's industry is owned by non-Canadian affiliates.

Exxon Corp., for example, has a 70% ownership stake in Imperial. Texaco Inc. owns 78% of Texaco Canada—a cash-rich property (about $583-million in cash and marketable securities) that has been mentioned as a buyout possibility because of the Texaco/Pennzoil settlement.

About 80% of Shell Canada is held by a Canadian investment company which in turn is wholly owned by Shell Transport and Trading Co. in England and Royal Dutch Petroleum Co. in the Netherlands. Approximately 75% of Suncor is owned by the Sun Company, with the remaining 25% held by the Province of Ontario. Chevron Canada, which markets on the West Coast, is controlled by Chevron Corp., and in turn owns 49% of Irving Oil, Ltd., a middle-sized Eastern refiner and marketer.

Over 50% of the stock of Calgary-based Husky Oil Ltd., belongs to Hong Kong entrepreneur Li Kashing and his son, a Canadian citizen. Shortly after the Texaco/Pennzoil settlement last fall, Husky executives journeyed to New York to meet with Texaco Inc. officials, apparently with the intention of bidding on the company's Canadian affiliate with an offer reported to be $2.2-billion. Although nothing has developed since that time—in fact, Texaco says it will borrow the money to pay its Pennzoil indebtedness—it is interesting to note that the acquisition of Texaco Canada would thrust Husky into the front ranks of Canadian majors, giving it a powerful presence in Eastern markets and a bigger share of its present Western marketing area.

The only major integrated company owned by Canadians, of course, is Petro-Canada, the Calgary-based giant which is 100% owned by the federal government. Petro-Canada officials like to point out that the company is gaining acceptance among the general public (See related story), but many marketers complain that having the government in the oil business puts them at a competitive disadvantage.

One independent marketer gripes about the "billions" in tax dollars that were used to finance Petro-Canada's early expansion. "It's murder trying to compete against your own government," this marketer says.

The Top Six Canadian Companies— A Five-Year Profile

(Shown in Millions of Canadian Dollars)

	1986	1985	1984	1983	1982
Imperial (Esso)					
Revenues	$7,064	$8,804	$8,755	$8,407	$8,270
Earnings	440	694	520	336	298
Petroleum Products Earnings	174	102	133	65	155
Net Crude Production (bd)	187,000	136,000	106,000	104,000	101,000
Petroleum Product Sales (bd)	332,000	341,000	334,000	343,000	367,000
Number of Employees	12,516	14,834	14,331	14,732	15,476
Petro-Canada					
Revenues	$5,172	$5,381	$4,988	$4,171	$2,795
Earnings	123	96*	132	9	(9)
Petroleum Product Earnings	115	(22)	NA	NA	NA
Net Crude Production (bd)	65,000	63,000	65,000	59,000	59,000
Petroleum Product Sales (bd)	279,000	224,000	188,000	171,000	96,000
Number of Employees	7,740	9,747	6,798	6,272	5,918
Shell Canada					
Revenues	$4,818	$6,102	$5,762	$5,336	$5,189
Earnings	154	146	123	102	131
Petroleum Products Earnings	129	154	71	NA	NA
Net Crude Production (bd)	49,000	49,000	50,000	44,000	42,000
Petroleum Product Sales (bd)	212,000	217,000	207,000	205,000	214,000
Number of Employees	7,011	7,142	7,136	7,975	8,611
Texaco Canada					
Revenues	$2,807	$4,304	$4,358	$4,213	$3,753
Earnings	283	336	423	344	275
Petroleum Product Earnings	73	39	NA	NA	NA
Net Crude Production (bd)	74,000	89,000	89,000	86,000	81,000
Petroleum Product Sales (bd)	158,000	160,000	159,000	163,000	169,000
Number of Employees	3,326	3,711	3,635	3,904	4,418
Ultramar Canada					
Revenues	$1,501	$1,386	$1,385	$1,166	$1,275
Earnings	(13)	(18)	5	(22)	(11)
Petroleum Product Earnings	NA	NA	NA	NA	NA
Net Crude Production (bd)	NA	NA	NA	NA	NA
Petroleum Product Sales (bd)	101,000	67,000	73,000	76,000	86,000
Number of Employees	NA	NA	NA	NA	NA
Suncor					
Revenues	$11,157	$1,474	$1,584	$1,484	$1,551
Earnings	1	34	110	106	68
Petroleum Product Earnings	27	11	NA	NA	NA
Net Crude Production (bd)	NA	NA	NA	NA	NA
Petroleum Product Sales	65,000	65,000	67,000	70,000	73,000
Number of Employees	4,180	5,430	5,580	5,410	5,190

*Before unusual items
Source: Annual Reports

Independent niche: full-service at self-serve prices

• As shown in the accompanying chart, major differences exist between Canada and the U.S. in terms of average pump prices, gasoline margins and taxes. For example, information provided by Statistics Canada and Energy, Mines and Resources Canada, shows the differential between average Canadian and U.S. pump prices (all grades) in September, 1987 was 15.6¢ (Canadian) per litre, which works out to about 48¢ (U.S.) per gal. The report notes that nearly two thirds of the differential was accounted for by higher taxes in Canada, which averaged by 9.6¢ per litre. Federal and provincial taxes took a huge 18.2¢ bite out of the Canadian gasoline litre, more than twice the U.S. tax rate.

An analysis of pump price components for self-serve regular leaded in Canada in late October showed dealers were realizing a retail margin of 3.7¢ per liter or more than 11¢ per gal in U.S. currency. That's self-serve, remember. Interestingly, the spread between full-service and self-serve prices in minimal in Canada, averaging only about 0.5¢ per litre. In fact, more gasoline is dispensed at full-service islands (55%) than at self-serve facilities.

One major company marketing executive explains that many independent marketers "have found a niche in the marketplace" by offer full-service gasoline at self-serve prices.

Diversification

Perhaps it's due to the country's wide open spaces and dispersed population, but whatever the reason, Canadian marketers, big and small, tend to diversify into a multitude of product offerings to satisfy the needs of their marketing territories.

Stephen O'Farrell of Texaco Canada foresees "destination" outlets offering a variety of products and services to customers as the future model for retail facilities. "Marketers can't make it on gasoline alone, anymore," he says.

O'Farrell envisages a "full family of buildings" including gasoline, convenience store, express lube, car wash and auto service as local market circumstances dictate.

Texaco Canada has imported the System 2000 station concept from its U.S. affiliate as part of a major upgrade of its retail outlets. O'Farrell reports that 100 System 2000 new or rebuilt units went onstream in 1986, another 130 were scheduled for completion in 1987 and that a total of 1,400 units would be converted to the System 2000 image, either as new facilities, rebuilds or existing outlets "provided with image packages."

Stephen O'Farrell, Texaco Canada vice president for marketing.

Aided by extensive advertising and retail promotions, Texaco is achieving increases in the range of 35% in average station throughputs with its image program, according to O'Farrell.

Canadian firms typically attempt to market with a mix of retail facilities. Montreal-based Ultramar, the largest regional refiner and one of the most profitable on a return-on-captial-employed basis (8.9% for the first six months of 1987), counts 750 locations with service bays, 90 car washes, 140 C-stores and 450 "gas bars" (gasoline-only) among its 1,382-station network.

Husky Oil is putting major emphasis on car washes in its 300-station chain in Western Canada, in addition to its 41 car/truck stops and nine travel stops, most of which feature leased "Husky House" restaurants. The company is also developing a three bay/food shop/car wash combo for the future.

Mohawk Oil Co. Ltd., a 264-station employee-owned independent headquartered in Barnaby, British Columbia, is promoting its growing network of 1,200 sq.ft. Stop 'n Shop food stores and in-house bakeries. According to Gordon Winter, vice president of external affairs, the company stresses its image as a "warm, friendly place to shop," with top notch service. "Our attendants are trained to run to the car when it pulls in," he reports. Sales counters have a free customer phone with a printed message: "Forgotten anything—phone home." Traffic is promoted with bonus coupons, offering $2 in merchandise or gasoline with a 25-litre fill.

Smaller marketers are spreading their wings, too. T.G. Hammond Ltd., an independent marketer based in Stratford, Ontario, which started out in the coal business in 1948, has diversified into a variety of markets to broaden its customer base. The company offers a wide range of products—motor fuels, heating oil, lube oil, propane, chemicals—to its farm, commercial and home heating accounts in addition to the 20 retail outlets and six company-operated stations it supplies with about 5-million gal. a year of gasoline and diesel fuel. "We're branching out into aviation gas, too, which we feel has a lot of potential," reports T.G. "Chum" Hammond, the company's chairman.

For United GasRite International Corp., a 14-station Brantford, Ontario independent, the main area of diversification has been in automatic self-serve car washes. "We're also planning to install quick lube facilities on at least two of our properties," says Tom Storr, vice president.

Promotions, too, are playing a big part in marketer plans to pick up market share. United GasRite, for example, is getting its biggest boost in sales out of a promotional idea it imported from the U.S., a miniature, computerized machine resembling a slot machine installed on top of a gasoline dispenser. Developed by Little Rock, Ark., private-brander Bill Copeland [*NPN*—Apr. '87, p43], the "Jackpot" game is activated when the nozzle is turned on. Three wheels spin just like a slot machine and if they stop on certain display combinations, lights flash, a siren sounds and customers win varying cash prizes, including a chance to participate in a $5,000 jackpot drawing.

"It's a great promotion," Storr reports. "In two months, our gasoline sales were up 40%."

Big companies play games, too, in the Canadian market. Sunoco has begun rolling out a "Key to Win" point-of-sale promoion—developed by Electronic Marketing Systems, Toronto—in three selected Ontario markets.

According to Dick Hutchison, Sunoco manager of marketing services, plastic white keys with promotional literature are mailed to every household in a targeted market area. Customers can bring the keys to a station, insert them into a 64K computer in the station's kiosk and win from $1 to $100. Customers can only use their keys on a twice-a-week basis.

The promotion lasts 16 weeks in a target market. Sunoco isn't saying yet what results it's getting in terms of gallonage increases, but Hutchison says that sales increases in test markets are very encouraging. "The customer retention factor is good, too," he says. "We're building a healthy share of repeat business with the promotion."

Bigger Apples, Smaller Barrel

Although events are taking a turn for the better for Canadian oil companies, outstanding issues still remain. The high concentration of the Canadian oil market in the hands of a small number of major integrated firms has many smaller marketers fretting, for example.

"We live at the whim of the majors," says Rick Hammond, vice president for T.G. Hammond and an outspoken critic of the market domination of the majors.

In Hammond's view, the majors size give them a stranglehold on the market, enabling them to put pressure on prices and supplies. He and other independents maintain that the majors have the power to "shrink" independent margins by driving down street prices or by bumping up wholesale prices.

James Conrad, executive vice president, Petroleum Marketers Assn. of Canada.

Typically, small independents prefer to operate without supply contracts to keep their options open in finding the lowest buying prices. (Some, like Hammond, import product from the U.S. when the price is right). But even those with short-term supply agreements with refiners often get no price guarantees. If a major kicks in a price increase, the independent has little choice except to find a new supplier. Some independents also complain that price supports granted to major brand dealers during price wars or similar market conditions are given only selectively, as to amount and timing, to independents, if at all.

"We need laws with guts, to remedy the unfair marketing practices," says Hammond. He and other independents have called for stronger competition laws, plus retail divorcement legislation that would permit refiners to own but no longer operate retail facilities.

On the other hand, executives of the major companies point out that a five year-public inquiry by the Restictive Trade Practices Commission essentially let the big firms off the hook as far as anti-competitive behaviour goes. According to Shell Canada, "the inquiry found no evidence of collusion in any sector of the industry, no cases of artificial price structuring and no victimization of independent dealers by the major companies. Although the (report) noted that a number of mergers and pricing practices had adversely affected competition, it concluded that marketing restrictions on the industry would be contrary to the public interest."

ESSO
Self Serve
ESSO
Trucks Welcome Diesel

Esso Petroleum (Imperial) has "rationalized" 40% of its retail outlets in 11 years. Like other major companies, it is testing new retailing concepts and electronic POS systems.

Speaking Canadian

Several years ago, Canada converted to the metric system, which is an eminently sensible measuring system, but sometimes confusing to U.S. readers. For the purpose of this article, production figures are expressed in barrels (i.e., crude production, refinery capacity, etc.), a measure that is commonly understood in both the U.S. and Canada. Most Canadians use cubic metres (m3) to express production statistics. A cubic metre equals approximately 6.3 barrels.

Retail gasoline is measured in litres, with 1 litre the equivalent of 1.0567 liquid quarts. Thus, 1 gal. of gasoline equals about 3.78 litres. In this article, retail gasoline statistics are expressed in litres.

Although the U.S. dollar has declined recently in relation to the Canadian dollar, the exchange rate for the past several years has hovered around the $.75 cents (U.S.), $1.00 (Canadian) rate. Since financial data in this article are expressed in Canadian currency, a good rule of thumb is to use the $.75 rate to convert Canadian financial data into U.S. dollar amounts.

The Biggest Gasoline Retailer Is…
Petroleum Demand Increases, Imports Rise
Strategic Petroleum Reserve: Will it Work?

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Buyer's Guide Issue

NATIONAL PETROLEUM NEWS
Established in 1909

VOL. 80 NO. 3

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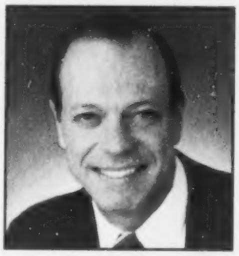

Editor's Viewpoint

Mergers, acquisitions and joint ventures aren't exactly new to the oil industry. Lately, however, there's a new wrinkle. Much of this activity involves foreign oil producers buying or buying into American firms, mainly second tier oil companies and big independents (See related item on page 12). It's a development that's worth watching because of the effect it may have on product supply, pricing and profit margins.

The underlying motive for these deals is that the domestic companies lock into an assured source of supply and the foreign oil producers get American outlets for their product. A rough idea of what may be in store in the U.S. is what is already underway across the Atlantic, where Kuwait is setting the pace. This Middle East producer has purchased a number of refineries on the continent and operates more than 4,500 stations throughout parts of Western Europe and Scandinavia under its (believe it not) "Q-8" brand. It is now reported to be the number two gasoline marketer in Great Britain, second only to Shell. Other oil producing countries may follow its lead.

Meanwhile, back in the States, some industry observers expect Venezuela to expand the beachhead it's established here and think Kuwait and possibly Saudia Arabia are waiting for an opportunity to make their move. The latter two have been listed among the parties interested in working out a joint venture with Texaco, and Kuwait long ago bid for Atlantic Richfield's East Coast operations and Gulf's retail outlets in the Southeast. If these countries make inroads in the U.S. market, others would get the same idea.

What these foreign producers want is the "vertical integration" characteristic of large multinational oil companies, whereby product is controlled from wellhead to gasoline station—with profits generated each step of the way. In fact, downstream profits needn't be very large, or even exist at all, for that matter. The key feature of vertical integration, of course, is that refined product can just about be given away at the retail level because once suppliers have established assured purchasers downstream they can run a lot of crude through their refineries, and it's in the sale of crude to the refineries where the really big money is made. Moreover, once oil producers become involved in downstream operations, they'll be less prone to cut production to keep prices high.

If this scenario begins to unfold, marketers may need to make adjustments because street prices will probably be pushed down sharply and profit margins could get very thin.

—Frank M. Victoria

National Petroleum News (NPN) (ISSN 0149-5267) is published monthly by Hunter Publishing Co., Inc., 950 Lee Street, Des Plaines, Illinois 60016. (312) 296-0770.

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience-store items. Position, company and segment of industry must be indicated on subscription orders.

Basic **subscription rates** for one year to individuals in the petroleum marketing industry are: U.S. $54; Canada $63 (U.S. $); Foreign surface mail $69 (U.S. $); Foreign airmail $104 (U.S. $). Non-industry personnel rates for one year are: U.S. $69; Canada $78 (U.S. $); Foreign surface mail $84 (U.S. $); Foreign airmail $128 (U.S. $). **Single copy price:** U.S. & Canada $8.00 (includes first class postage). Foreign $10.00 (includes airmail postage). **Mid-June Factbook:** U.S. $50; Canada $60, Foreign $70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. **Change of address:** Notices should be sent promptly, provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (312)296-0770, 9 a.m. to 4 p.m.

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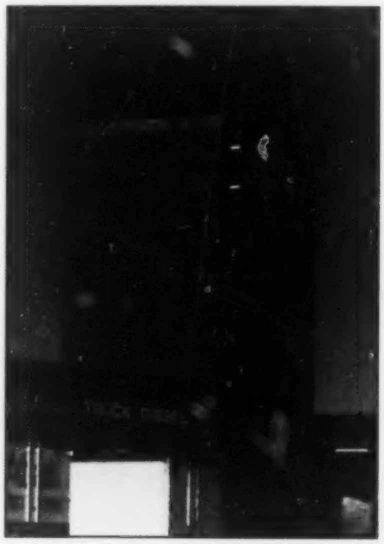


Bigger and better are just two of the adjectives used to describe Giant Industries' new travel center/truck stop in New Mexico. Featured are a 29,000 sq. ft. enclosed shopping mall, 18 full-service diesel lanes and an adjacent company-owned refinery. **Page 32**

The Strategic Petroleum Reserve is designed as a hedge against future supply disruptions. But experts are divided on how the SPR will work in a crisis. **Page 40**

Southland sells more gasoline (retail and wholesale), but has a refinery. Cumberland Farms sells more branded retail product and Getty is coming on strong. So, who's the biggest "independent" retailer? **Page 48**

• TRENDS

Joint Ventures: Are They Becoming '88 Hallmarks?

The way the winds are blowing, this is as good a time as any to suggest that 1988 may already be shaping up as one that could see a number of U.S. marketers taking foreign oil companies as their domestic partners in joint ventures that would replace the ugly acquisition set-tos of the past.

Such joint ventures aren't everyone's piece of cake, however. They're mostly interesting to the second-tier U.S. oil companies and bigger independents who want to lock up supply sources. But there are exceptions and they serve useful purposes for both American marketers and their foreign counterparts. They also raise a lot of questions about the impact they ultimately will have on domestic supplies and product prices.

Two companies broke the downstream joint-venture ice in 1987—Citgo Petroleum of Dallas, Texas, and Steuart Petroleum of Washington, D.C. Their circumstances are as similar as they are different.

Citgo is a wholly owned subsidiary of Southland Corp., which has a big refinery in the Southwest. It's 50-50 deal with Petroleos de Venezuela gave Southland a solid source of crude at a partnership cost that cannot help but result in some very good product prices. At the same time, it gave Venezuela a home for some of its crude, of which it—like other OPEC lands—have too much of these days. It also gave the Latin Americans a toehold penetration in the domestic marketplace, which has become increasingly important to all oil exporters.

In about the same way, Steuart Petroleum, another independent, made a 50-50 deal with Italy's AGIP last summer. This gave Steuart an infusion of cash for market expansion and an assured source of product. Steuart does not have a refinery, although at various times in the past it has tried to get one. But here again, the Italian partnership deal cannot help but result in some mighty fine street prices for Steuart.

Not long ago, Coastal Corp. (which is based in Houston and sells gasoline and other products on the East Coast, South, Southwest and the Midcontinent/Rocky Mountain areas as well) let it be known that it would also willingly talk to some foreign crude producers and perhaps lock up a supply source for part of its 325,000 b/d refinery capacity. The way Coastal looks at it, according to one source: "You're giving up half the profits but you're getting a solid source of supply. The producer is getting what he wants—an entry into the U.S. marketplace—and so are we."

Texaco is another company that has indicated it would be interested in joint ventures once it gets out of bankruptcy. It's very big company, one of the nation's largest. Texaco has some king-sized problems too. It has refineries and reserves and production of its own but the $6-billion-plus cost of extricating itself from Chapter 11 bankruptcy is going to crimp its exploration ambitions for years to come. So what could be better than a joint venture? Not only would it give Texaco some much needed cash but also a means of hanging on in the direst of circumstances. Texaco has many overseas sources of supply now but its marketplace operations are totally its own. A co-ownership concession is something that may not be totally indigestible if it is a means of staying alive.

There seems to be no lack of foreign oil countries ready, willing and able to talk to American marketers about U.S. partnerships. Kuwait, for example, has already penetrated Western Europe where it owns and operates refineries and service stations alike. It has long been interested in the U.S. Others with niches in oil-importing countries include Libya, Iran and the United Emirates. Saudi Arabia is anxious to go both ways—crude or product. It has some new refineries on stream now that are perfectly capable of doing the job. All it wants to do is get its foot in the door. Nigeria is another exporter which now is making no bones about its downstream interests in U.S. marketplaces.

In short, it seems the marketplace out there is just waiting for something to happen. —*J. Richard Shaner*

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

DECEMBER	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$0.975	$0.912	$0.961	$1.119
Regions				
Northeast	1.015	.993	.979	1.149
North Central	.982	.933	.976	1.112
South	.971	.897	.955	1.109
West	.947	.903	.940	1.102

Source: U.S. Dept. of Labor, Bureau of Labor Statistics

STOCKS (add 000 bbl.)

	1/29/88	1/30/87
Gasoline (Total)	235,553	251,358
Gasoline (Unleaded)*	141,387	140,540
Jet Kerosine	39,435	41,835
Distillates	125,604	142,036
Residual	45,063	42,081

* *Included in gasoline total.*

Source: American Petroleum Institute.

NPN

NATIONAL PETROLEUM NEWS

MARCH 1988

Petroleum Demand Increases, Imports Fill Supply 'Gap'

In 1987, U.S. crude oil production was down, product demand was up and imports continued to climb. In other words, it was a rerun of 1986, a period when the domestic industry began absorbing the impact of the crude oil price collapse.

There's good news and bad news, and perhaps some ominous portents, in the American Petroleum Institute's final statistical summary for the year. While demand was up, crude oil production fell to the lowest level in a decade in 1987, API's report says. And, the growing gap between domestic supply and demand is being filled almost entirely by imported products.

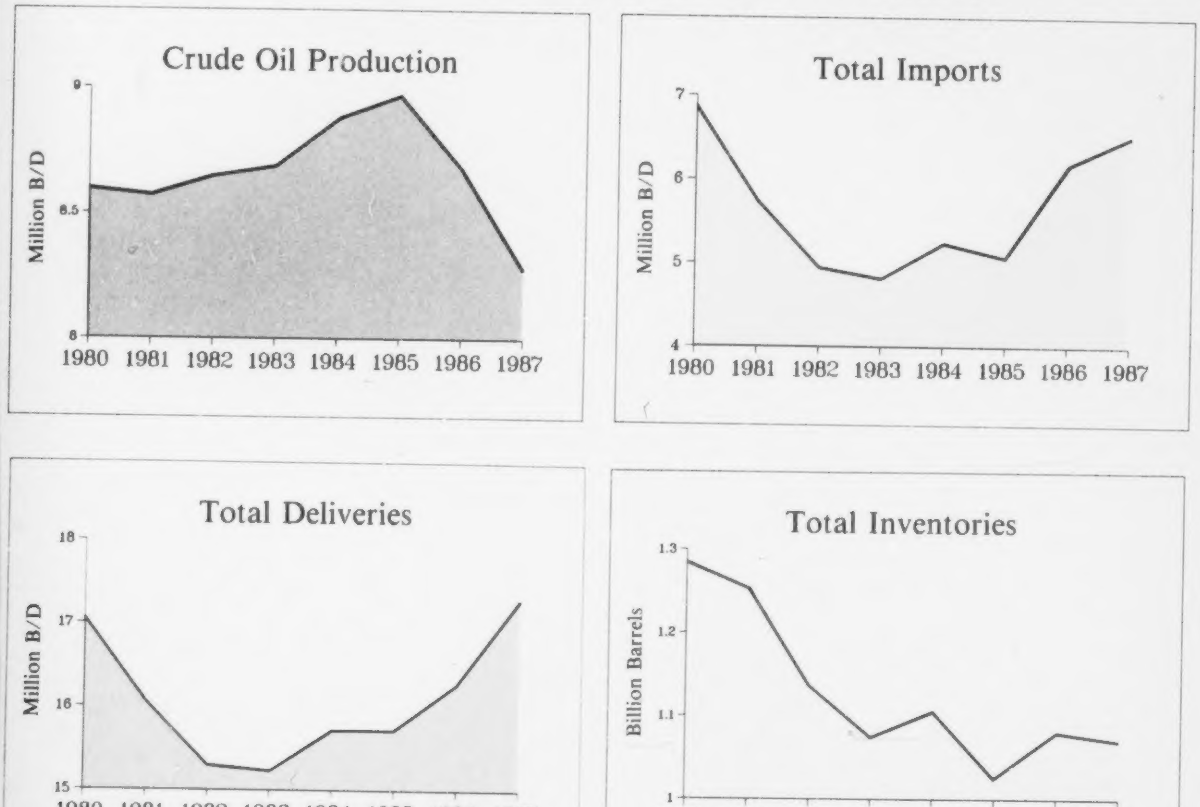
Last year, U.S. crude production averaged 8,288,000 b/d, the smallest figure since 1977 when 8,245,000 b/d were produced. That production level was down 4.5% from the 8,680,00 b/d produced in 1986. API also noted that "by year-end, production was down more than 900,000 b/d or 10% from early 1986."

Petroleum product deliveries continued to increase in 1987, reaching an average level of 16,568,000 b/d or 1.8% better than the figure for 1986. The biggest percentage increase in deliveries was in kerosine jet fuel which was up 4.3% for the year. Other major products were up too, except for residual fuel oil, which declined 11.6%.

Deliveries of gasoline were up 2% in 1987 with all of the increase in unleaded fuel, which now accounts for almost 80% of the gasoline market, API says. Unleaded gained 6.8% in market share last year, with virtually all of the boost in mid-grade unleaded. The growth rate in gasoline deliveries was slowed somewhat from the year-ago figure (from 3% to 2% increases) despite an estimated 4% increase in miles traveled. API surmises the slower growth was due to improved vehicle fuel efficiency.

(Continued on Page 24)

U.S. SUPPLY AND DEMAND: A 7-YEAR OVERVIEW



Source: 1980-86, Department of Energy—1987, API

Petroleum Demand Continued . . .

Reflecting higher crude costs for the year, gasoline prices at the end of 1987 were 13¢ a gal. higher than a year earlier, although the average for the entire year was only 2¢ above 1986.

Total imports (crude plus refined product) increased 5.3% in 1987 to an estimated 6,505,000 b/d, the highest level since 1980. Says API, "Imports in 1987 accounted for nearly 40% of deliveries, and almost half came from OPEC producers." Imports have increased a total of 31% or about 1.5-million b/d over the past two years.

Other API year-end data:

- In a companion report on drilling activity, API says that oil well completions for 1987 were down 14.8% to 15,778. Exploratory oil well completions, another benchmark for upstream activity, declined 8.3% from 1986 to 899. Although there was some improvement in 1987 in exploration, development and field maintenance overall, API's data, which had showed a $30-billion, 38% decline in upstream activities in 1986, says that such activities were still well below late 1985 figures—40% below in rig activity, for example and 20% below in field maintenance.
- Refinery capacity stabilized in 1987 and utilization rates have steadily improved from less than 70% in the early 1980s to an annual average of 83% in the past two years.

1987 Supply-Demand

	Million b/d	% Change
Total Domestic Deliveries	16.6	1.8
Gasoline	7.2	2.0
Crude Oil Production	8.2	(4.5)
Total Imports	6.5	5.3

Source: American Petroleum Institute December Monthly Statistic Report

More Spending Planned For Production in '88

Independent and major oil companies worldwide expect crude oil prices to average about $18.20 a bbl. this year, and, therefore budgeting large increases for exploration and production, according to a survey of 207 companies.

The survey, conducted by Salomon Brothers' Stock Research Department, found that for most of the companies even if crude prices fell to $15 a bbl. there would be no change in planned expenditures as long as the price recovered again by midyear.

The survey results may indicate particularly good news on the domestic front. Of the 116 U.S. companies surveyed—19 majors and 97 independents—the majors are budgeting an average increase of 12.4%, or $13.7-billion, for exploration and production. The indies, meanwhile, are budgeting a 19.9% or $2.9-billion increase.

In fact, the survey shows that 64% of the U.S. companies described the economics of exploration as either good or excellent.

Likewise, 41 Canadian companies are budgeting exploration and development increases of 20.6% ($2.9-billion) and 50 international companies are budgeting increases of 16.5% ($14.8-billion). Further, of all the companies surveyed, half are planning to spend a larger portion of their upstream budgets on exploration drilling than last year. The survey notes that the trend has been to spend on development drilling instead.

Perhaps in a reaction to the oil price collapse of 1986, a greater concern for replacing reserve stocks is seen in the survey results, especially among the major oil companies. Reserve replacement was mentioned as a major factor influencing budgets by 31% of the majors and 14% of the independents.

A full 75% of all the companies in the survey feel that the economics of drilling for reserves are more favorable than purchasing them. Although it may not be news to the depressed economies of the U.S. Oil Patch states, the trend among major oil companies is to shift their exploration and production expenditures outside the U.S. where the economics of exploration are seen as more favorable (See chart below).

EXPLORATION ECONOMICS—U.S. vs. FOREIGN

	Majors	Independents
How are the economics of U.S. exploration?		
Excellent	0%	18%
Good	56	48
Fair	28	19
Poor	16	15
How are the economics of foreign exploration?		
Excellent	11%	18%
Good	67	70
Fair	17	6
Poor	5	6

MAJOR OIL COMPANIES—
U.S. EXPLORATION/PRODUCTION EXPENDITURES

(in millions of dollars)

	1988*	1987*	% Chng.
Amerada Hess	$ 175	$ 135	29.6%
Amoco	1,550	1,350	14.8
Atlantic Richfield	1,050	925	13.0
BHP	175	150	16.6
British Petroleum	1,150	950	21.0
Chevron	1,100	1,050	4.7
Du Pont	735	590	24.0
Exxon	1,350	1,125	20.0
Mobil	1,110	1,080	2.7
Occidental Petroleum	235	180	30.5
Pennzoil	120	120	—
Phillips Petroleum	250	150	66.0
Shell Oil	1,665	1,520	9.5
Sun	535	510	4.9
Tenneco	265	235	12.7
Texaco	800	720	11.1
Union Pacific	300	185	62.0
Unocal	430	410	4.8
USX Corp.	700	700	—

*Salomon Brothers Inc. estimates
Source: Salomon Brothers Inc.

Upstream Gains Offset by Lower Downstream Margins

In a year of gradual improvement in crude profits accompanied by generally lower product nets, oil companies fared reasonably well in 1987. One indication of this rosier picture: At least six reported net incomes in excess of $1-billion, up four from 1986.

Texaco, beset by legal suits, Chapter 11 bankruptcy proceedings and more running problems than any oil company deserves, had one of its worst financial years in history. It weighed in with a fourth-quarter loss of $4.8-billion and a year-end slump of $4.4-billion. This, despite the fact that it had downstream profits of $69-million in the fourth quarter and $825-million in all of 1987.

Nevertheless, said Texaco in almost MacArthurian style, "we shall return." Said President and CEO James W. Kinnear: "We are looking forward to a year of strengthening Texaco's competitive position. We are planning an aggressive restructuring upon our emergence from Chapter 11. These plans are moving forward now and will accelerate once the burden of the Pennzoil litigation and Chapter 11 has been lifted."

Shell sales of motor fuel rose 5% in the fourth quarter and 8% for the full year, probably a harbinger that it is still the nation's No. 1 gasoline retailer.

The six companies that topped the $1-billion mark in 1987 earnings were: Exxon (the perennial leader), Mobil, Chevron, Shell, Amoco and Arco. In 1985, only two made the billionaire's club—Exxon and Mobil. Earnings of the other companies, while substantial, reflected the collapse of 1986 prices and profits.

Percentage relationships, even though they are standard financial barometers, are often very deceptive. For example, Exxon had only a meager increase—5.1%—in its fourth-quarter profits. But 5.1% of $1.6-billion equates out to a lot more cash-in-hand ($78-million) than 75% of $100-million which, while more exotic percentage-wise, is only worth $75-million. Mobil had an exciting fourth quarter, up 92%, but like Exxon, was on the downside for the full year.

Shell had a record increase of 78% in the fourth quarter and 39% for the year. Amoco was up 129% in the final quarter and 82% for 1987. Arco scored increases of 431% and 99% in the same periods. Marathon, which only reports pre-tax operating profits, had a substantial showing in 1987—an increase of 510%.

Details in table at right.

Strong Fourth Quarters Helped Most Companies

Fourth Quarter and Full Year Earnings—1987

(Millions of dollars)

	4th Qtr. 1987	4th Qtr. 1986	% Chng.	Full Year 1987	Full Year 1986	% Chng.
Exxon	$1,556.0	$1,480.0	5.1%	$4,841.0	$5,360.0	(9.7%)
Mobil	389.0	203.0	91.6	1,264.0	1,407.0	(10.2)
Texaco	(4,762.0)	50.0	—	(4,407.0)	725.0	—
Chevron	220.0	(86.0)	—	1,007.0	715.0	40.8
Shell	436.0	254.0	71.7	1,230.0	883.0	39.3
Amoco	377.0	165.0	128.5	1,360.0	747.0	82.1
Arco	340.0	64.0	431.3	1,224.0	615.0	99.0
Tenneco	NA	NA	—	NA	NA	—
BP-America*	NA	NA	—	NA	NA	—
Conoco**	82.0	24.0	241.7	277.0	355.0	(20.9)
Phillips	33.0	11.0	200.0	35.0	28.0	25.0
Sun	83.0	70.0	18.6	348.0	385.0	(9.6)
Unocal	29.8	49.2	(39.4)	181.4	175.8	3.2
Marathon**	(13.0)	81.0	—	445.0	73.0	510.0
Coastal	35.0	66.9	(47.7)	113.1	71.6	58.0
Amerada Hess	(79.6)	78.1	—	229.9	(182.6)	—
Ashland	71.2	27.2	161.8	(1st Qtr., fiscal ends 9/30)		
Diamond Shamrock	3.3	(16.8)	—	1.6	(64.8)	—
Pennzoil	22.0	46.5	(52.7)	44.3	45.4	(2.4)
Kerr-McGee	NA	NA	—	NA	NA	—
Murphy	(61.0)	(207.0)	—	(43.0)	(194.8)	—
Amer. Petrofina	13.6	5.0	172.0	83.3	(24.6)	—
Citgo	NA	NA		NA	NA	—
Getty	NA	NA		NA	NA	—
Cumberland	NA	NA		NA	NA	—

*Formerly The Standard Oil Co.; **Conoco and Marathon are pre-tax operating profits.

Downstream: The Year-End Nets Were Negative

(Millions of dollars)

	4th Qtr. 1987	4th Qtr. 1986	% Chng.	Full Year 1987	Full Year 1986	% Chng.
Exxon (Total)	$376.0	$305.0	2.3%	$491.0	$1,934.0	(74.6%)
Domestic	82.0	15.0	446.7	32.0	478.0	(93.3)
Foreign	294.0	290.0	1.4	459.0	1,456.0	(68.5)
Mobil (Total)	(27.0)	259.0	—	206.0	1,299.0	(78.8)
Domestic	53.0	65.0	(18.5)	123.0	365.0	(66.3)
Foreign	(80.0)	194.0	—	83.0	934.0	(91.1)
Texaco (Total)	69.0	(10.0)	—	124.0	825.0	(85.0)
Domestic	(5.0)	(66.0)	—	(68.0)	128.0	—
Foreign	74.0	56.0	32.1	192.0	697.0	(72.4)
Chevron (Total)	159.0	(46.0)	—	157.0	689.0	(77.2)
Domestic	115.0	(128.0)	—	100.0	209.0	(52.1)
Foreign	44.0	174.0	(74.7)	57.0	480.0	(88.1)
Shell (Total)	93.0	35.0	165.7	224.0	319.0	(29.8)
Amoco (Total)	69.0	37.0	(86.5)	216.0	362.0	(40.3)
Arco (Total)	50.0	48.0	4.2	150.0	353.0	(57.5)
Conoco (Total)	73.0	65.0	12.3	177.0	414.0	(57.2)
Phillips (Total)	64.0	75.0	(14.7)	201.0	458.0	(56.1)
Sun (Total)	23.0	1.0	2,200.0	64.0	214.0	(74.8)
Domestic	22.0	(7.0)	—	46.0	201.0	(77.1)
Foreign	1.0	8.0	(87.5)	18.0	13.0	38.5
Amerada Hess	(195.0)	37.0	—	(79.6)	78.1	—

4/7/88
C4680-1

April 1988
$6.00

What to Consider About Diversification
How Truck Stops Profit in Today's Market
How Apex Oil Succeeded—Then Folded

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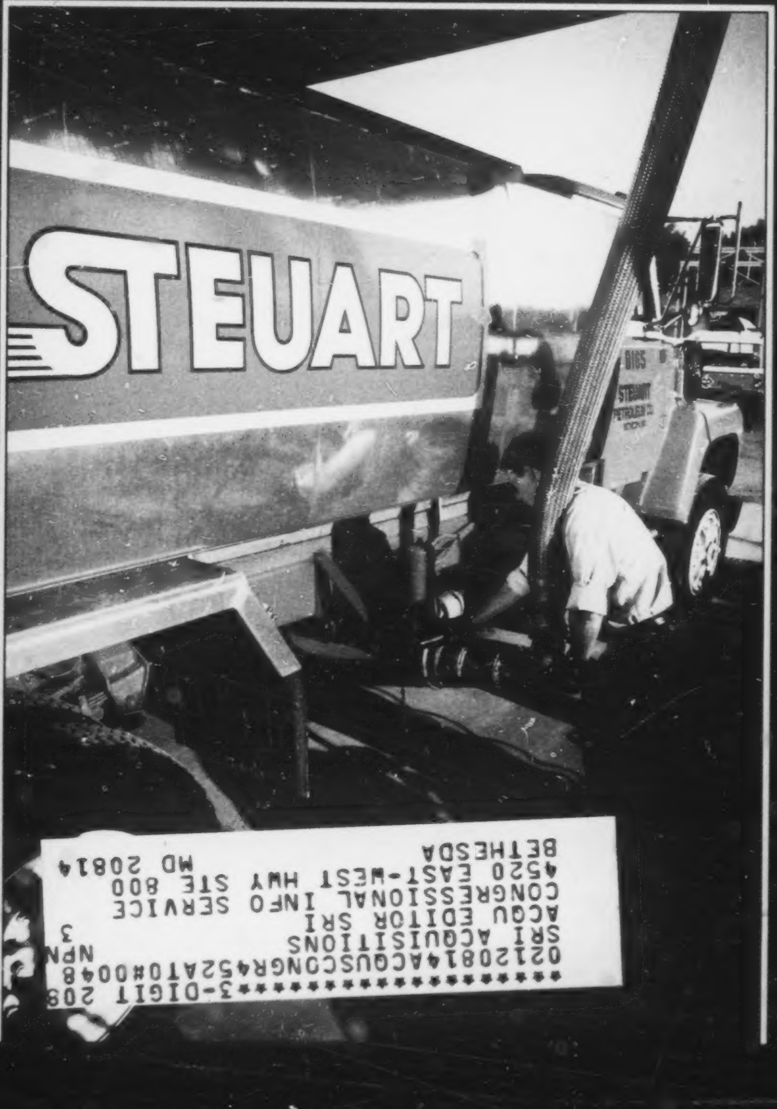
National Petroleum News

How Steuart Petroleum Plans To Keep Growing



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NATIONAL PETROLEUM NEWS
Established in 1909

VOL. 80 NO. 4

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Editor's Viewpoint

Independent marketers have been the major innovative force in this industry and were among the first to recognize the need for diversifying into new high margin profit centers to generate increased sales and earnings and decrease vulnerability to erratic changes in the market. Diversification remains important and most jobbers are either already involved in this process and or are becoming more involved (See page 42).

Developing these multiple profit streams today, however, requires more thought and caution than in the past. What worked well in the past may not work so well now and in the future. And the cost of certain forms of diversification has escalated, in some cases dramatically, putting smaller jobbers in particular at a disadvantage.

Convenience stores are an example. They have been one of the most common and successful forms of diversification and, for the most part, remain an excellent vehicle for creating a good profit stream independent of gasoline. But like almost any other good idea, it attracted more and more attention and there are signs that the C-store market is becoming saturated in certain areas. Price cutting has already begun in some markets and there are indications that a shake out may be in the cards.

At the same time, the investment required for C-stores has risen substantially. Not only are many C-stores larger and offering a wider array of merchandise, but the price of land at prime locations has increased dramatically. Some large chains and independents are spending as much as $750,000 to $1-million to build large C-store/fast food outlets. One company reportedly paid $1.3-million just for the land at a prime location.

Fast lubes are another case in point. Although jobbers can still set up a one-bay fast lube facility with support packages from some suppliers for a relatively small cost, the investment for some new stand alone facilities can run from one-half million to $1-million or more. Fast lube franchises can also be expensive depending on cost of equipment, initial and ongoing franchise fees and support packages. And again, the market for fast lubes is bloated in some areas, although there is plenty of potential in others.

Even video rentals have lost some appeal. Investment cost has not, for the most part, increased greatly. But the competition has. In many major metropolitan areas, video stores have proliferated to a point where there are two or three on the same block. Prices, and therefore profits and return on investment, have dropped, and even some large chains are approaching this market with far more caution than in the past.

—Frank M. Victoria

National Petroleum News (NPN) (ISSN 0149-5267) is published monthly by Hunter Publishing Co., Inc., 950 Lee Street, Des Plaines, Illinois 60016. (312) 296-0770.

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.

Basic **subscription rates** for one year to individuals in the petroleum marketing industry are: U.S. $54; Canada $63 (U.S. $); Foreign surface mail $69 (U.S. $); Foreign airmail $104 (U.S. $). Non-industry personnel rates for one year are: U.S. $69; Canada $78 (U.S. $); Foreign surface mail $84 (U.S. $); Foreign airmail $128 (U.S. $). **Single copy price:** U.S. & Canada $8.00 (includes first class postage). Foreign $10.00 (includes airmail postage). **Mid-June Factbook:** U.S. $50; Canada $60; Foreign $70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. **Change of address:** Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (312)296-0770, 9 a.m. to 4 p.m.

Postmasters: Send address changes to NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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Backed by overseas capital, Steuart Petroleum Co. is hedging against the soft resid market and shopping for new retail marketing opportunities anywhere East of the Mississippi. **Page 30**

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Auto/Truck Stop
Restaurant

Like everywhere else in the petroleum business, fierce competition rules the day in the truck stop market. Savvy operators are turning to non-fuel services to build alternate profit streams. **Page 36**

Marketers are diversifying into C-stores, car washes, quick turnover auto services and other specialties to boost revenues and profits. But diversification can be expensive, too. **Page 42**

• TRENDS

'Buy American' Meaning Has Changed Abroad

Coined as a patriotic barricade against the tidal wave of foreign products which has invaded the U.S. marketplaces, "Buy American" is a promotional slogan that's no longer a hostile catch phrase overseas.

To the contrary, it is emerging from the international shadows as an acceptable, latter-day concept that's 180 degrees removed from what the originators had in mind when they sought to persuade consumers to buy homegrown products instead of those from half a world away.

But the slogan has obviously taken a new meaning for some of the major oil producing countries. To them, it doesn't mean buying American products, per se; it means buying bigger and better things, such as equity interests in U.S. refining and marketing facilities which will allow them to lock up crude oil outlets and at the same time assure themselves of leverage and clout all the way from their backyard wellheads to dispenser pumps and oil burner tanks in the good old U.S. of A.

Foreign crude oil and products have never had too many problems in finding "homes" in U.S. marketplaces. But once on these shores, the crudes were processed in American refineries and the products were distributed via American outlets. Even Shell and BP, which are British-owned, function in this manner.

But that has changed and the trend will apparently continue. Even some of the big boys are lining up now—both the oil countries and the U.S. oil companies.

Beleaguered Texaco, for example, facing as it is billions of dollars in payoffs to extricate itself from a Chapter 11 bankruptcy, has verified that it is negotiating with foreign interests to sell half of its refining facilities in the U.S.

Saudi Arabia has confirmed that it's not only negotiating with Texaco but implies that other members of the Aramco partnership (formerly the Arabian American Oil Co.) i.e., Chevron, Exxon and Mobil may be amenable to private chats too. And Kuwait, which long has wanted a firm foothold in U.S. marketplaces has said that it had talked to Texaco some time ago but is ready and willing to reopen the discussions at any time.

Meanwhile, Nigeria is said to be talking to Sun, Hill Petroleum, Mapco and smaller Crown Central Petroleum, of Baltimore, Md. Coastal Corp., which has about 600,020 b/d of refining capacity and an ambitious program to expand its East Coast marketplaces, has let it be known that it's willing to talk turkey to possible purchasers of 50% interest.

Money, of course, is at the bottom of it all. One West Coast energy forecaster recently told the Wall Street Journal that Saudi Arabia—with a 50% ownership of substantial U.S. refining facilities in hand—could move its crude to East Coast or Gulf refineries, thence profitably to the streets for maybe 40¢ a gal. Crude would have to drop to the $10 bbl. again to enable others to do likewise. Not a pleasant prospect for oilmen. Remember what happened in 1986 with $10 crude?

What's going on is not unique to only the oil industry, however. More and more American manufacturing and service firms are selling themselves or equity interests in their operations to foreigners. W.T. Grimm, a Chicago-based research firm that specializes in tracking such acquisitions, was quoted recently as saying that foreign purchases of U.S. assets rose more than 50% in 1987 to $38-billion. The "Buy American" trend is expected to continue throughout 1988, so long as the American dollar remains weak and the strong German marks and Japanese yens dominate the international exchanges. Cited as a specific example was Firestone's recent deal to sell most of its tire operations to a Japanese competitor.

Given the nature of the times, could it be that by the year 2000 the only 100% native-born and controlled refiners and marketers left in the U.S. would be those that are too small to be worth fighting over? *—J. Richard Shaner*

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

JANUARY	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$0.947	$0.881	$0.933	$1.015
Regions				
Northeast	1.002	.913	.968	1.136
North Central	.934	.889	.931	1.060
South	.942	.862	.925	1.086
West	.926	.884	.917	1.084

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	2/26/88	2/27/88
Gasoline (Total)	238,876	252,918
Gasoline (Unleaded)*	147,281	139,789
Jet Kerosine	37,725	41,310
Distillates	110,227	127,101
Residual	45,646	38,036

* *Included in gasoline total.*
Source: American Petroleum Institute.

NPN

NATIONAL PETROLEUM NEWS APRIL 1988

Texaco Puts Pennzoil Suit Behind, Launches New Marketing Campaign

After agreeing to pay Pennzoil $3-billion to settle one of the toughest and most exhausting legal battles in history, Texaco has embarked on an intensive campaign to beef up its jobber and dealer relations and rejuvenate its marketing programs.

At a series of eight meetings across the country in February and March, Texaco affirmed its commitment to its jobbers and dealers, declared its dedication to regain marketing leadership, and announced programs designed to help its resellers compete more effectively in a changing marketplace.

These were not ordinary meetings. They were wining and dining extravaganzas for jobbers and dealers—and their spouses—with professional staging, television cameras, laser displays, and other trimmings.

Seven dealer meetings, each lasting a half day and an evening, were held in Seattle, Las Vegas, New Orleans, Orlando, Atlantic City, Washington DC, and Dallas, with an estimated 3,000 attending over all.

The first national convention ever held for jobbers spanned three days in Las Vegas, with 2,000 attending. Heading the speakers' list were chief executive officer J. W. Kinnear, president J. L. Dunlap, and marketing vice president Glenn Tilton.

Acknowledging that Texaco marketers might be wondering what effect the payment of $3-billion might have on the company, Albert L. Derden, retail services manager, said in an interview:

"We are showing our dealers we are prepared to put this (Pennzoil suit) behind us . . ., that this is not slowing us down as far as the marketing organization is concerned, that we anticipate in early April coming out from under Chapter 11, and that we have been in the past and will continue to be a very vital part of this nation's petroleum industry."

Gene McGraw, wholesale manager, said in an interview, "Our jobbers have been extremely supportive through these turbulent times with the Pennzoil situation, and we wanted to recognize them for those efforts. . . .

"This is a rededication to our jobbers, asking them to improve their businesses, their image and ours, in a mutuality of interest, so we can return to being the best in this industry."

Contrary to some trade speculation (see page 20), McGraw said Texaco did not lose a single jobber on account of the Pennzoil situation, and Derden said there was no loss of market share attributable to that.

Both emphasized that refining and marketing were set up as a separate corporation in 1984 and were not affected by the Pennzoil proceedings.

Mini Markets Are in

For both jobbers and dealers, Texaco embarked on a national program to convert salesrooms of its automotive-service stations to mini markets as a means of increasing gasoline sales and improving station profits.

For its 2,400 direct-delivered stations and 13,600 indirect (jobber) stations, Texaco is urging full-service marketers at approved locations to invest $16,000-$17,000, plus inventory, to convert salesrooms to convenience stores. Texaco would provide four different conversion designs, construction plans, suggested inventories, and so forth, plus leasing of dispensing machines.

Texaco believes the little stores should generate from $3,000 per month to as high as $10,000 per month in revenues. "Even in the $3,000-$4,000 range, with a 30% margin on the products sold, the retailer has a return on his investment of anywhere from 30-35% and higher," Derden explained.

He said these mini-market conversions would help stop the loss of customers "to the big gas bars with food marts" while service stations remain in the full-service car business.

What's for Jobbers

Texaco announced a number of new support programs for jobbers, in McGraw's words, "in order to assist them in doing the things we think are necessary to return Texaco to its prominent position in the marketplace and the leader we once were, the best in the industry."

Among the programs are building incentives for new facilities, complete tear down and rebuilds, partial rehabilitations, and for the new Express Lube program. In addition, the company provides quantity discounts and other incentives for lubricant sales.

In what's called the "Alliance for Prog-

(Continued on page 27)

New Forecast Sees Improved Demand But Weaker Prices

Federal forecasters took another look at things in the first quarter and while they predicted that gasoline demand may be a bit healthier in 1988 than had been expected, retail prices will plod along in the doldrums through mid-1989.

They boosted their gasoline demand projections about 100,000 b/d, predicting they will average 7.24-million b/d for the year. Third-quarter demand may be up as much as 150,000 b/d over the forecast they made last winter [*NPN*—Jan. '88, p36], mostly because lower prices will probably encourage more warm-weather driving.

Pump prices will be in the '90s throughout the year and will wind up averaging about 94¢ a gal. This will be 2¢ a gal. under the 1987 average and 5¢ a gal. under the rosier prediction made last winter. Diesel fuel will share a similar shortfall, the Feds said.

The buck-a-gallon gasoline average,

(Continued on page 26)

Forecast, Continued . . .

which had been expected last fall and then again in the second and third quarters of this year, has been put on hold again until next spring at the earliest. However, the swing to unleaded gasoline continues unabated. Unleaded gasoline consumption will be at the 80% level this summer and the 85% level in mid-1989. This parallels earlier forecasts that demand for leaded gasoline will erode to the 10%-12% range by early 1990, less than two years from now.

Crude Prices Weaken

Blame the sagging crude oil prices for the poor showings in product prices. The crude prices failed to rise in the fourth quarter of 1987, as had been anticipated, dropping as low as $16 bbl. The outlook is they'll continue to waffle in 1988, although a bit firmer in the spring and summer months, maybe $19 bbl. If things should take a turn for the worst, however, a drop to $12 bbl. to $15 bbl. would upend the marketplaces again as did the collapse of 1986.

Distillate heating oil prices won't vary too much in 1988 and 1989, with wholesale levels remaining about the same as projected previously but with retails up about 2¢ a gal. The retails are about 1¢ less than had been predicted last winter.

No big swings or changes in margins are expected at this time. They'll continue to run about the same as in 1986 and 1987, the federal experts say.

The New Box Score: Demand Improves, Prices Don't

	PROJECTIONS						
	1989		1988				
	1Q	2Q	1Q	2Q	3Q	4Q	Full Year
DEMAND (million b/d)							
Motor Gasoline	6.92	7.45	6.91	7.44	7.41	7.22	7.24
Leaded	1.27	1.16	1.51	1.56	1.49	1.39	1.49
Unleaded	5.65	6.29	5.40	5.88	5.92	5.83	5.76
% Unleaded	82%	84%	78%	79%	80%	81%	80%
Distillates	3.49	2.88	3.46	2.82	2.65	3.17	3.02
Residual	1.42	1.08	1.57	1.12	1.04	1.11	1.21
Total U.S. (a)	17.02	16.46	17.05	16.29	16.38	16.92	16.66
PRICES (per gal.) (b)							
Motor Gasoline (c)	.97	1.01	.92	.93	.96	.95	.94
No. 2 Diesel	.98	.99	.92	.93	.95	.96	.94
No. Heating Oil							
Wholesale	.57	.56	.50	.51	.53	.54	.52
Retail	.89	.86	.82	.79	.80	.84	.82
Residual (d)	.45	.44	.39	.40	.42	.44	.41

		HISTORY				
		1987				
	% Chng 88 v 87	1Q	2Q	3Q	4Q	Full Year
DEMAND (million b/d)						
Motor Gasoline	1.1%	6.70	7.44	7.35	7.12	7.16
Leaded	(13.9)	1.73	1.89	1.73	1.55	1.73
Unleaded	6.1	4.97	5.55	5.62	5.57	5.43
% Unleaded		74%	75%	77%	78%	76%
Distillates	2.0	3.22	2.82	2.69	3.13	2.96
Residual	(2.4)	1.38	1.16	1.25	1.17	1.24
Total U.S. (a)	0.8	16.34	16.43	16.62	16.68	16.52
PRICES (per gal.) (b)						
Motor Gasoline (c)	(2.1)	.90	.95	.99	.98	.96
No. 2 Diesel	2.2	.89	.91	.95	.94	.92
No. 2 Heating Oil						
Wholesale	0.0	.50	.51	.54	.55	.52
Retail	2.5	.79	.78	.78	.83	.80
Residual (d)	(2.4)	.41	.43	.44	.41	.42

(a) Includes all oils; (b) Includes federal and state taxes, except No. 2 heating oil; (c) Average prices for all grades and services; (d) Average prices for all grades of sulfur.

Source: Energy Information Administration, Short-Term Energy Outlook, dated January 1988, published early February.

May 1988

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How Amoco Exec Views Today's Market
Why Quick Lubes Are Taking Market Share
Why Fuel Oil Gained Ground In Northeast

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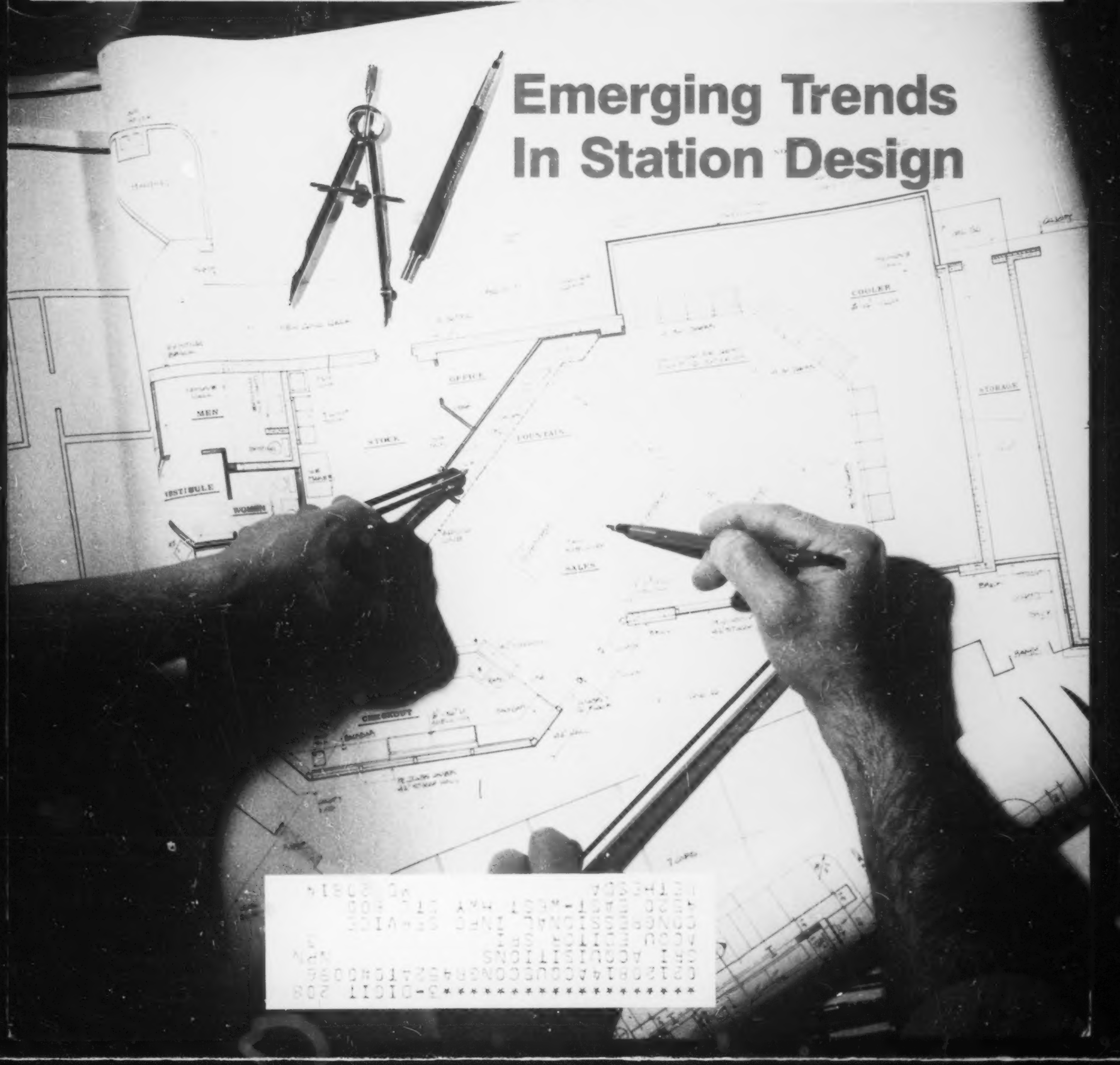
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Emerging Trends In Station Design

NATIONAL PETROLEUM NEWS
Established in 1909

VOL. 80 NO. 5

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Editor's Viewpoint

With national elections coming at the end of this year, it's at least an even money bet that you'll be hearing more talk about raising taxes on the oil industry—most likely dressed up as a "fair" and easy way to cut the bloated national budget deficit. That sounds good on the surface, but the industry can only hope that the idea won't go beyond the talking stage.

Such a policy would almost certainly have negative economic results both short and long term because it would further reduce domestic exploration production, making the nation even more dependant on foreign sources. That would not only endanger national energy security, it will substantially increase the deficit in the U.S. balance of trade. Last year, the U.S. energy import deficit totalled almost $37-billion, according to the Energy Information Agency—about one-fourth of the nation's total trade deficit. In 1986, the oil import deficit was about one-fifth of the total deficit.

Economists and others in financial circles differ on how severe a problem this balance of trade deficit is, but just about all of them agree we'd be better off if it was trimmed. They generally concur that the trade deficit weakens the dollar, which could increase inflation and possibly lead to higher interest rates. That's not a pleasant prospect and many people on Wall Street say that worries over the effect of the trade deficit was at least a contributing factor to last year's October stock market crash.

The American Petroleum Institute notes that the oil industry has a pretty good record of reinvesting its income into new exploration and production. It points out, for instance, that a survey by Arthur Andersen and Co. showed the industry reinvested about 70% of its production revenue into exploration and production. API also notes that data from the Internal Revenue Service and the Department of Energy show that the industry's reinvestment ratio has been between 60% and 80% in all but three years since 1960—and in two of those three years the rate was more than 90%.

The oil industry needs to plow much of its income into new exploration and production of domestic oil. But that's not likely to happen if more of the industry's income is taxed away. Instead of looking at ways to increase taxes on the industry, legislators should be thinking up incentives that would allow the industry to keep and reinvest more income in finding and producing more domestic oil. A good starting point would be the repeal of the so-called Windfall Profits Tax and reinstatement of the oil depletion allowance.

—Frank M. Victoria

National Petroleum News (NPN) (ISSN 0149-5267) is published monthly by Hunter Publishing Co., Inc., 950 Lee Street, Des Plaines, Illinois 60016. (312) 296-0770.

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience-store items. Position, company and segment of industry must be indicated on subscription orders.

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Basic **subscription rates** for one year to individuals in the petroleum marketing industry are: U.S. $54; Canada $63 (U.S. $); Foreign surface mail $69 (U.S. $); Foreign airmail $104 (U.S. $). Non-industry personnel rates for one year are: U.S. $69; Canada $78 (U.S. $); Foreign surface mail $84 (U.S. $); Foreign airmail $128 (U.S. $). **Single copy price:** U.S. & Canada $8.00 (includes first class postage). Foreign $10.00 (includes airmail postage). **Mid-June Factbook:** U.S. $50; Canada $60; Foreign $70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. **Change of address:** Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription, service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (312)296-0770, 9 a.m. to 4 p.m.

Postmasters: Send address changes to NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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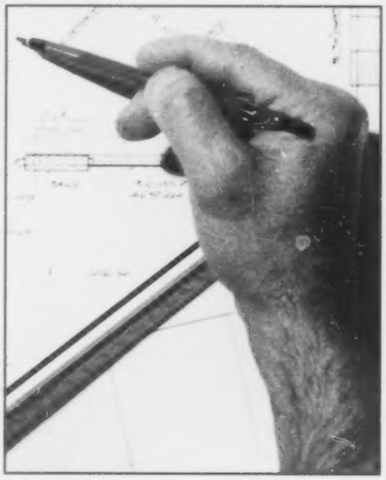


The face of retail gasoline marketing is changing dramatically as oil companies, lured by typical sales increases of 25% to 30%, invest heavily in station design. **Page 34**

In an exclusive interview, Robert J. Rauscher, Amoco's marketing vice president speaks out on issues affecting marketers, plus new concepts the company is introducing in the marketplace. **Page 46**

Quick lubes are quickly becoming a major force in the retail lubrication market, with a current population of 2,000 outlets. And the growth curve is getting steeper, with 6,000 outlets forecast by 1990. **Page 52**

Shell Repeats As Biggest Gasoline Retailer In '87

With another surge in street sales in 1987, Shell Oil Co. held its place as the No. 1 gasoline marketer and set new records in the process. Shell's gasoline volume exceeded 10-billion gal. last year, only the second oil firm in history to reach that point. Chevron broke the 10-billion gal. mark in 1984, just after it bought Gulf Oil Corp., but slipped the next year as it consolidated and spun off some marketing assets.

However, Shell's 1987 volume was higher than Chevron's: 10.6-billion gal. vs. 10.3-billion gal. for the latter. That's an all-time high for gasoline sales by any oil company. Shell's relative share-of-market was around 9.4% in 1987. Chevron's level in 1984 was 9.7%, so it still outranks Shell as the percentage leader.

To achieve 10.6-billion gal., Shell had a 12% gain in its gasoline sales last year – and that followed a 20% increase in 1986, which propelled the company into the national leadership for the first time.

Shell is the American subsidiary of the Royal Dutch Shell Group of Companies which has dual headquarters in The Hague and London. BP-America, which ranked seventh in gasoline sales in 1987, is also owned by overseas oil interests. Formerly The Standard Oil Co., it was acquired 100% by BP-London just last summer.

Chevron retained second place in the gasoline derby for the second consecutive year. Next came Texaco, Exxon, Amoco and Mobil (see tables), as they'd ranked in 1986. Although Chevron had only a relatively insignificant increase in its 1987 gallonage, it did better than Texaco, Exxon and Amoco, which slipped slightly. Getty, up 500-million gal. in 1987, had a spectacular 42% increase over 1986.

Several items are significant in 1987 boxscore.

Citgo reappears as a privately owned, independent oil company after several years of confusing operating statistics and ownership, first by Occidental Petroleum Co., then by Southland Corp. In mid-1986, Petroleos de Venezuela purchased a 50% interest in Citgo, putting the company on a stand alone basis and no longer a controlled satellite of the 7-Eleven chain. It supplies more than 7,000 outlets, including Southland's 3,000.

Sun's position changed in '86 and '87 by a restatement of volumes reflecting trading and purchasing of outside supplies for its outlets and some third-party sales.

Oil Company Market Share Box Score—1986 and 1987

1986 GROSS GAL. & RELATIVE MARKET SHARES (REVISED) (a)

(1986 Gross Sales = 111,933,927,000 gal.)

	Rank	% Share of Market	Gross Gallonage	% Chng vs. 1985
Shell	1	8.491%	9,504,600	20.4%
Chevron	2	8.183	9,160,020	(3.3)
Texaco	3	7.806	8,738,100	1.8
Exxon	4	7.326	8,416,170	1.9
Amoco	5	7.163	8,017,590	2.6
Mobil	6	6.546	7,327,740	9.9
Stand. Oil	7	4.892	5,350,170	0.0
Citgo*	8	4.520	5,058,900	NC
Arco	9	4.492	5,028,210	8.3
Sun**	10	3.944	4,415,040	NC
Marathon	11	3.931	4,399,710	5.5
Unocal	12	3.561	3,985,800	7.0
Phillips	13	3.328	3,755,190	(1.2)
Conoco	14	2.671	2,989,350	3.7
Cumberland	15	2.055	2,300,000	0.0
Getty	16	1.068	1,195,740	8.3
Circle K	17	0.808	904,300	28.3
Total	—	80.9%	90,546,630	NC

(a) Market shares were revised to reflect Federal Highway Administration's corrected consumption total for 1986; (b) gallonage reported in company annual reports and 10-Ks; in addition, several other changes occurred, as follows: * Citgo, formerly a wholly owned subsidiary of Southland became privately owned in 1986; ** Sun restated its gross gallonage sales in 1986 to reflect marketplace purchases to supply its own and third-party contract needs; NC—Not comparable with 1985 gallonages.

GROSS GAS GAL. & RELATIVE MARKET SHARES—1987 (a)

(1987 Gross Sales = 113,612,946 gal.) (a)

	Rank	% Share of Market	Gross Gals. (b)	% Chng vs. 1986
Shell	1	9.351%	10,623,690	11.8%
Chevron	2	8.109	9,213,330	0.6
Texaco	3	7.597	8,630,790	(1.2)
Exxon	4	7.286	8,278,200	(1.6)
Amoco	5	7.030	7,986,930	(0.4)
Mobil	6	6.949	7,894,950	7.7
Arco**	7	4.561	5,181,540	3.0
Citgo***	8	4.331	4,920,930	(2.7)
Sun****	9	4.063	4,615,863	4.5
Marathon	10	4.061	4,614,330	4.9
Unocal	11	3.753	4,264,410	6.5
Phillips	12	3.454	3,924,480	5.3
Conoco	13	2.888	3,280,620	9.7
Cumberland	14	2.024	2,300,000	0.0
Getty	15	1.496	1,700,000	42.2
Circle K	16	1.012	1,149,750	27.1
Total		79.7%	90,579,813	

(a) Preliminary data; gross gallonage for 1987 projected by NPN based on FHA and API yearend data; (b) gallonage reported in company annual reports and 10-K's; ** Arco's gallonage includes Lyndell Petroleum; *** Citgo's status was changed in 1986 (see explanation in 1986 footnotes); Citgo's gallonage includes 1.8-billion gal. retailed by Southland/7-Eleven stores which, as a separate entity, would nominally rank below Cumberland and ahead of Getty in the boxscore above; **** Sun restated its earnings in 1987 and 1986 (see explanation in 1986 footnotes).

• TRENDS

Foreign Investments Becoming Significant

If current patterns continue into the mid-1990s, foreign investors could eventually end up owning enough parts and pieces of the U.S. oil industry to give them a growing influence on domestic supplies, prices and marketing facilities.

The amount of foreign investment so far is only a drop in the bucket in relation to the total value of the domestic petroleum industry, maybe only 6% to 7%. Nevertheless, it is there and growing by the billions of dollars. That little drop could easily become a bucketfull by 1995 or thereabouts.

Consider, for example, some current statistics:

- Foreign investors now own or market through one out of every five service stations in the U.S.
- They sell about one out of every seven gallons of gasoline bought by American motorists.
- They control about one-fifth of U.S. refinery capacity and one out of every seven refineries.
- They had a hand in not quite two out of every 10 b/d of domestic crude oil and natural gas liquids produced in the U.S. in 1986.

According to a federal study, "Profiles of Foreign Direct Investment in U.S. Energy 1986," this "FDI" in the domestic oil industry more than doubled between 1980 and 1986 (and, as an extrapolation suggests, may well have tripled by the end of 1987). FDIs in petroleum were 29.6% of the total FDIs in America in 1986 and, remembering BP-London alone poured more than $7-billion into its acquisition of Standard Oil last year, there's no doubt that FDIs topped $36-billion in 1987. As a point of comparison, American investments in foreign oil facilities also grew in 1986. Although they were more than twice the size ($61-billion) of foreign investments in the U.S., however, the growth rate has been noticeably slower in recent years.

Following are statistics worth thinking about:

Foreign Direct Investments in the U.S.
(billions of dollars)

Year	FDI in U.S. Petroleum	Total FDI in U.S.	% Petroleum of Total
1987*	$37.0	$230.0	16.1%
1986	29.6	209.3	14.1
1985	28.3	184.6	15.3
1984	25.4	164.6	15.4
1983	18.2	137.1	13.3
1982	17.7	124.7	14.2
1981	15.2	108.7	14.2
1980	12.2	83.0	14.7

(*) Projected by NPN.

FDIs in Marketing, Refining and Production

	1986	1985	1984
Branded retail outlets			
FDI companies	26,223	27,421	25,860
U.S. total	120,150	124,600	132,080
% FDI of U.S. total	21.8%	22.0%	19.6%
Gasoline supplied (in thousands of b/d)			
Total FDIs	1,263	1,285	1,066
U.S. total	7,034	6,831	6,693
% FDI of U.S. total	18.2%	18.8%	15.9%
Refineries			
Total FDIs	30	28	28
U.S. total	219	216	223
% FDI of U.S. total	13.7%	13.0%	12.6%
Crude distillation capacity (in thousands of b/d)			
Total FDIs	2,979	2,621	2,293
U.S. total	15,566	15,459	15,659
% FDI of U.S. total	19.1%	16.8%	14.6%
Crude oil and NGL production (in thousands of b/d)			
Total FDIs	1,527	1,452	1,365
U.S. total	10,289	10,636	10,554
% FDI of U.S. total	14.6%	13.7%	12.9%

—by J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

FEBRUARY	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$0.928	$0.859	$0.913	$1.082
Regions:				
Northeast	.983	.896	.948	1.120
North Central	.915	.865	.911	1.058
South	.927	.847	.908	1.074
West	.901	.852	.894	1.064

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	4/1/88	4/3/87
Gasoline (Total)	229,861	246,204
Gasoline (unleaded)*	144,432	138,770
Jet Kerosine	38,873	41,779
Distillates	91,558	107,489
Residual	42,110	38,009

**Included in gasoline total.*
Source: American Petroleum Institute.

NPN

NATIONAL PETROLEUM NEWS MAY 1988

Fuel Oil Gets Another Big Market Share Boost In Northeast

For the second year in a row, fuel oil has made another strong showing in the new home construction market in the Northeast, which is its heartland.

Preliminary data from the Department of Commerce says oil-heat got 27% of the new home market in that area in 1987, up 3% from 1986 which, in itself, was up 8% over 1985.

Oil heat also made a better-than-average showing in the Midwest where, although it got only 1% of the new homes, this was more satisfying than the "too small to be significant" reports of the past.

The Commerce Department, in its preliminary findings, said 192,000 new homes were constructed in the Northeast in 1987. This would put oil heat's share of new homes at 51,840.

Natural gas also showed improvement in the new home construction figures while electric heat, which used to be the terror of the fuel oil dealers, continued the declines of recent years.

On a national basis, oil heat held its own at 5% of the total market of 1,120,000 new homes, which was about the same as in 1986.

Here's the boxscore of new homes in 1987, as reported by the Commerce Department in mid-March:

Oil Heat Gets More New Homes Again

Region	New Homes Completed (Add 000)	Share of New Homes by Fuels			
			Percentages		
		Gas	Electric	Oil	Other
Northeast	195	44%	27%	27%	2%
Midwest (a)	200	83	13	1	3
South	466	33	65	(•)	2
West	258	68	25	(•)	7
Total 1987	1,120	52%	40%	5%	3%
Total 1986	1,120	47%	44%	5%	4%

(a) Formerly called North Central; (•) Statistical data did not meet publication standards.
Source: U.S. Department of Commerce. 1987 Construction Reports, preliminary, published in March 1988.

Gasoline Prices Lowest In Decade Despite Inflation, Taxes

With inflation and higher excise taxes last year, the retail price of a gal. of gasoline averaged 42.2¢, the lowest level in a decade.

Between 1978 and 1987, the retail price of a gal. of gasoline declined about 20%, which in 1987 was 11¢ less than it was 10 years earlier, according to an American Petroleum Institute (API) report.

The average pump price in 1978 was 65.2¢, including 11.8¢ for federal, state and local excise taxes. The average pump price had risen 30.5¢ per gal. in 1987, including an additional 10.1¢ in excise taxes while the consumer price index climbed only about 74% during the 10 year span.

In addition to the lower adjusted price per gal. the nation's motorists benefited by an increase in average miles per gal., which also lowers costs per mile traveled. During this period the average miles driven per gal. of gasoline increased from 14.0 to 18.3, while at the same time, the inflation adjusted fuel costs of driving one mile fell from 3.8¢ to 2.3¢.

API also notes that personal expenditure for gasoline and oil declined during this decade from $51.3-billion to $45.7-billion. Personal consumption outlays on the other hand for operating, maintaining and repairing motor vehicles declined to 45.4% over the 10-year period. API notes that gasoline and oil's share of total personal consumption expenditure fell from 3.7% in 1978 to 2.7% in 1986.

In a companion report, API says petroleum products rose, as domestic crude oil production continued to decline while imports increased.

API's January statistical report says crude supplies averaged 17,520,000 b/d, 6.9% higher since January 1987 when 16,383,000 b/d were supplied. Crude oil production fell by 1-million b/d over the past two years. In January U.S. crude production averaged 8,134,000 b/d. That crude oil production level was down 3.7% from the 8,447,000 b/d produced in January 1987.

Petroleum product deliveries continued to increase in January, with kerosine jet fuel the highest, up 21.2%. Other major products climbed too, in fact, residual fuel oil was up 4.8%, the first increase 12 months.

Total imports (crude oil plus refined products) increased 14.4% at the end of January to an estimated 6,971,000 from 6,094,000 b/d. Much of the increase says API was in product imports, which increased 31.8% from January 1987. Crude oil imports were up 7.1%.

Other highlights in the report included:

- Unleaded gained 80% of the market share in January.
- Refinery used an averaged 83.5%. This was 2.5 percentage points higher than in January 1987.
- Total inventories (crude oil and petroleum products) declined 2.2% from the previous month, but were at about the same level a year ago.
- Gasoline, kerosine jet fuel and distillate fuel oil were lower at the end of January then they were in 1987.

Why Quick Lube Outlets Are Grabbing Market Share

Quick-lube outlets are rapidly taking over the market that service stations have been vacating for nearly two decades. The number of quick lubes has grown to more than 2,000 in just a few years, and the growth is accelerating to what analysts estimate will be 6,000 by 1990. Beyond that, who knows?

If 6,000 seems like a lot of quick lubes to expect in only two more years, consider that the number of automotive service stations has plummeted by 90,000 in about 16 years. The closing of service stations in vast numbers created a vacuum into which specialized lubrication centers were bound to come.

When the service-station population (Census Bureau definition*) was at its peak of 225,000 in 1972, there were 190,000 service stations that did lube jobs. Today, with a service-station population of 117,220, only about 100,000 do lubes, a net loss of 90,000 stations.

By Mark Emond
Contributing Correspondent

Quick lubes began sprouting even before the need was especially pressing, but as more and more service stations succumbed to changing oil-company strategies in the late 70s, quick lubes began to get a foothold and now have flooded into the vacuum by the thousands.

It's highly doubtful the population of quick lubes will ever reach 90,000, replacing defunct service stations one for one. The reason is that each quick lube does a lot more oil changes, on average, than service stations do, and so fewer are needed to satisfy demand.

But there seems to be plenty of room left in which to expand. (For a report on how the quick-lube market was shaping up two years ago, see *NPN*—Dec. '86, p42.)

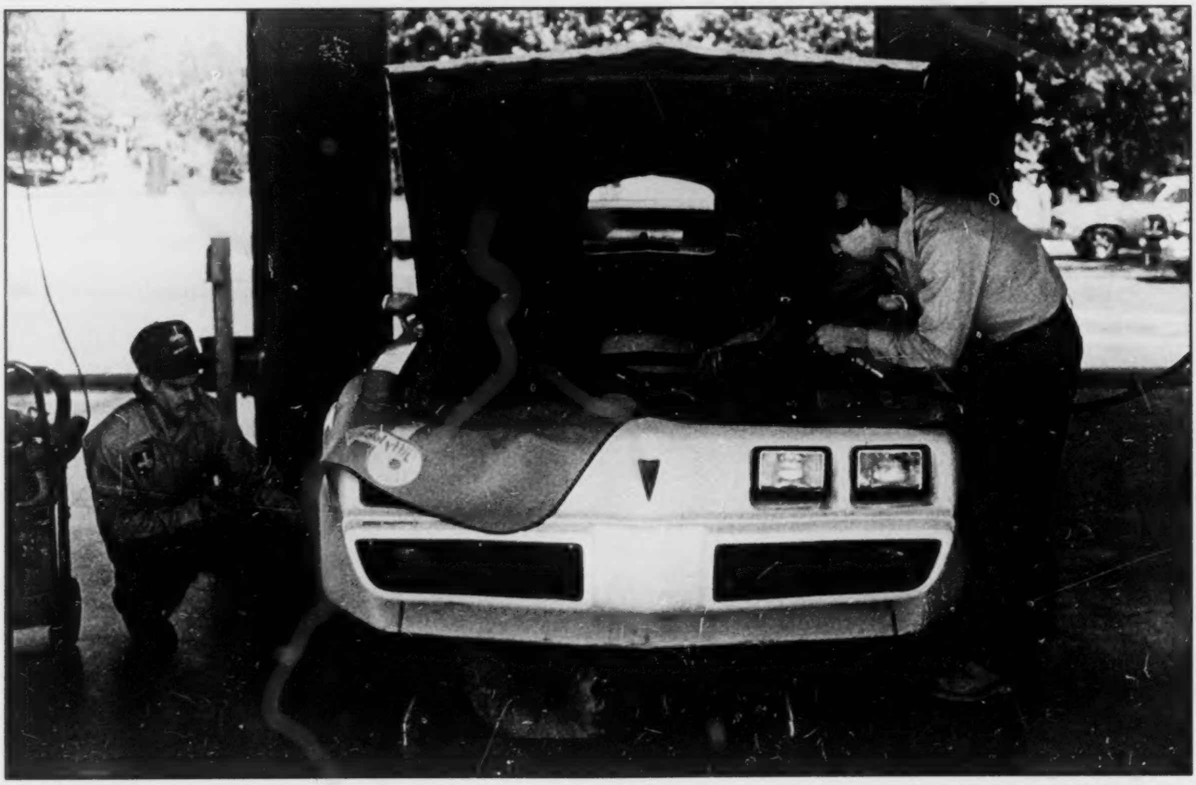
How big is the market?

The motor oil market for the 153-million passenger cars and light trucks registered in the United States is an estimated 700-million gal. annually, reports Larry Solomon, manager of market research for Valvoline.

Of these 153-million cars and light trucks, 78%, or about 119-million, are privately owned (not commercial or public) and therefore are potential lube service customers of retail outlets. They have their oil changed 360-million times a year, using an average of 1.2 gal. per change, and also use about 1 gal. a year in makeup oil. They consume about 550-million gal. of motor oil a year.

However, 70% of motor oil is installed by motorists themselves, leaving 30% to be installed by retail lube service centers, or 165-million gal.

These estimates are based on an average oil-change frequency of 2.94 times a year. However, this frequency—and therefore the volume of motor oil installed—may be rising because the do-it-yourself trade is slipping and also because quick-lube stations promote more-frequent lube jobs,



Current king of the quick lube business is Jiffy Lube with almost 800 outlets in the U.S. Company is shooting for 1,200 units by 1990. One strategy: a joint effort with Pennzoil to get independents to brand up to Jiffy.

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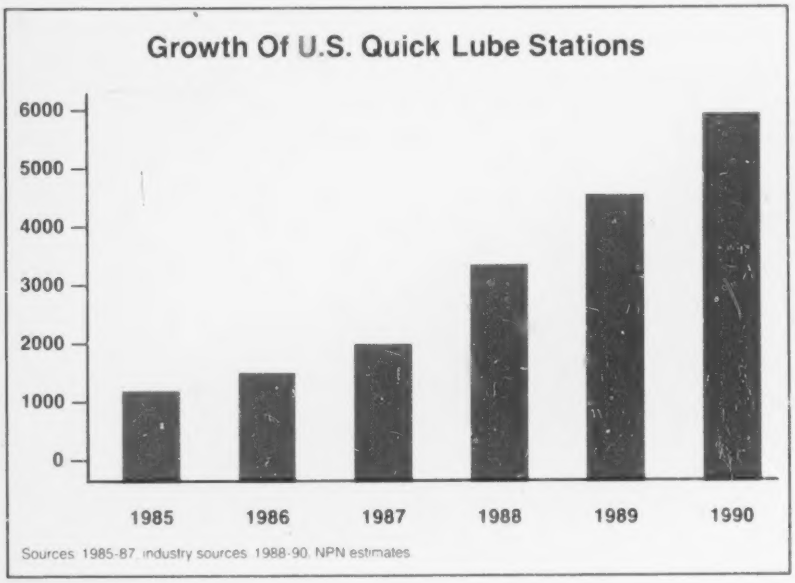
*The Census Bureau counts only stations with more than 50% of their dollar revenues in petroleum products and services. If other types of gasoline outlets are included, such as C-stores and mass merchandisers, there are probably half again as many total gasoline outlets.



Sources: 1985-87, industry sources; 1988-90, NPN estimates

usually every 3,000 miles. They appear to be succeeding in convincing some people, by reason or convenience, to obtain lube service more often than that.

Quick lubes have an estimated 20% of the market, or 33-million gal. a year, and their market share is rising fast. Service stations have an estimated 30%, or 50-million gal., and their market share is falling. Industry statistics show that ordinarily what quick lubes gain in sales, service stations lose.

The quick lubes mainly market independent motor oil brands. Texaco's Havoline motor oil is the only major-company product with a significant foothold in that specialized market.

The quick-lube motor oil market shares, Solomon reports, are as follows: Pennzoil 49.8%; Quaker State 24.1%; Valvoline 8.4%; Castrol 4.3%; Havoline 2.8%; and Kendall 2.2%. The rest are all under 1%.

Pennzoil's overwhelming dominance is based almost solely on the fact that its motor oils are featured by the biggest quick-lube chain in the business, Jiffy Lube. Quaker State and Valvoline, on the other hand, have obtained their quick-lube positions by investing heavily in the business.

Oil companies: whoa, whoa!

As the traditional motor oil business has slipped away from the conventional service-station networks, major oil companies have been surprisingly long-suffering and largely unresponsive.

Some efforts have been made to encourage retailers to speed up lube service somehow or dedicate a bay to quick lube, but the results have been mixed, and it does not appear to be an offsetting trend.

There are signs recently, however, that the majors may be beginning to think differently. Some are beginning to experiment with quick lubes, and it seems only a matter of time before at least some of them jump in with both feet. Time is of the essence, however, and it's not clear whether oil companies can get a base swiftly enough to check or reverse the rapid expansion of the quick-lube companies.

They used to have two-thirds of the installed motor oil business. Now, they have perhaps a third, and a lot of that is not their own brand of motor oil. In an amazingly short time, quick lubes have captured one-fifth to one-fourth of the installed market, and at the rate they're expanding, they could have half or more in a few years.

Because the lube business of car dealers, repair garages, mass merchandisers and others has remained fairly constant over the years, practically all of the new business quick lubes are getting comes out of the hides of the oil companies.

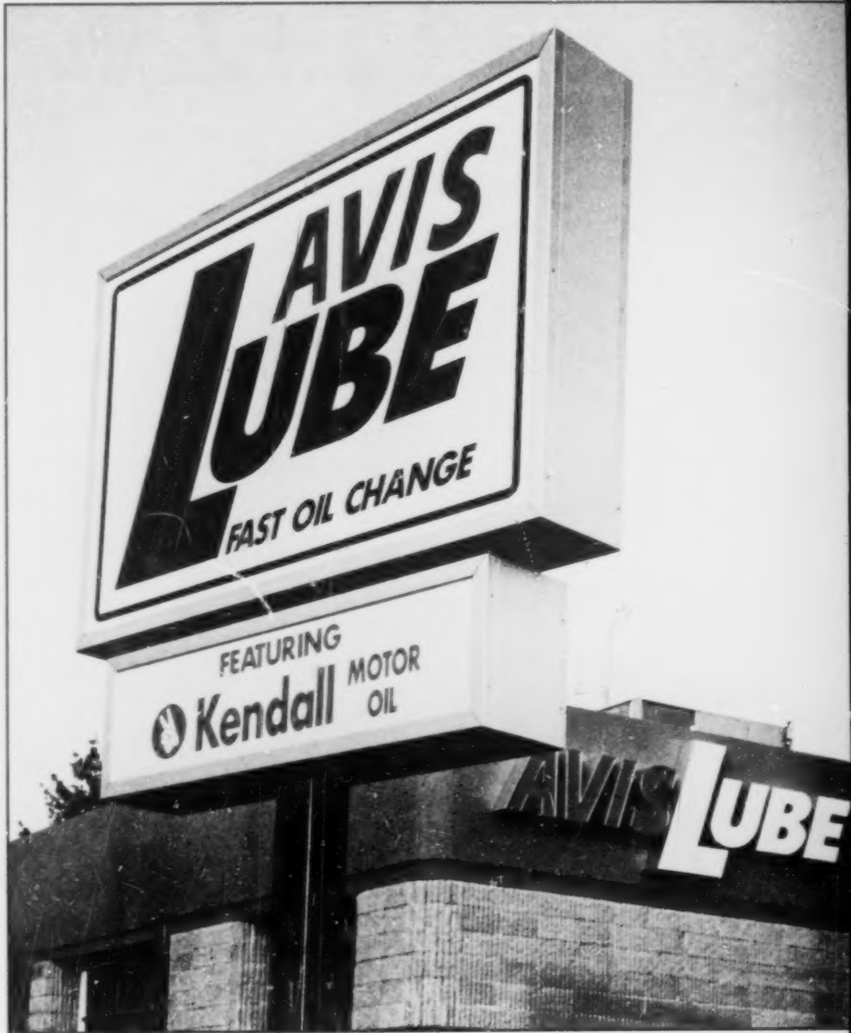
Except for Texaco, major oil companies are also-rans in U.S. total motor oil market share. In 1987, Pennzoil was first with 20.8%. Others were as follows: Quaker State 16.7%; Valvoline 12.9%; Havoline 11.8%; Castrol 8.7%; Mobil 4.4%; Exxon 2.6%; Kendall 2.6%; Shell 2.2%; Citgo 1.1%; Chevron 1.0%; Amoco 0.9%; and Gulf 0.9%. These data come from NPD Auto Facts, Houston, which keeps continual tabs on how consumers buy their motor oil, among other things.

The dominant marketing strategy of the principal quick-lube companies is to get in fast and gain a substantial market share as a base for advertising and promotion. Many believe that down the road only a few big chains will survive, with the bigs buying out the smalls.

Nobody knows exactly at what developmental age the quick-lube trend stands—infancy, childhood, adolescence, maturity, middle age—but the clock is running. It is probably still in its major growth period, which means successful entry by one or more serious contenders may still be in the cards.

Second largest quick lube chain is 281-unit Minit-Lube, growing fast with infusion of capital from Quaker State, which bought the company in 1985.

One chain builds outlets faster than McDonald's



An important new player is Avis Lube, a joint venture between Kendall Refining and car rental giant Avis. Company has 56 units under development and plans for 350 more.

Entry and expansion opportunities depend on the stage of quick-lube development in each individual market. Salt Lake City, for example, where both Jiffy Lube and Minit-Lube got started, has so many quick lubes it's considered a mature market. Some West Coast markets, including Los Angeles, are considered in their infancy, in part because of high real estate costs.

Quick-lube hierarchy

By far the largest chain is Jiffy Lube, a publicly owned company based in Baltimore. It has 780 service centers in the United States, 12 in Canada, 3 in France, and 1 each in England and Australia. Jiffy is shooting for 1,200 by 1990.

Jiffy's average ticket for lube jobs only is $21, its average total ticket is $28, reports Megan Rock, marketing services manager. This may not be exactly what other quick lubes obtain, but since Jiffy has 40% of total outlets, it's a fair approximation on which to estimate total industry revenues.

On this basis, quick lubes have estimated revenues of nearly $2-billion annually on all sales and services. On lube jobs only, revenues are $1.5-billion. If there are 6,000 quick lubes in 1992, the revenue will approximately triple what is today, to a total of $6-billion over all.

For the fiscal year that ended in March 1987, Jiffy's revenues were $152-million, with 561 outlets at the time, an annual average revenue of $271,000 per outlet, or $22,600 per month. Of course, many of the outlets were just getting started.

Jiffy services 40,000 cars a day, with an average of 44 per unit, says Rock.

Although Pennzoil has not been officially affiliated with Jiffy, it supplies about 70% of the company's motor oil, in bulk. Jiffy also sells significant amounts of packaged Valvoline, Quaker State, and Castrol, reports Rock. A 20-year agreement between Pennzoil and Jiffy Lube has just been announced, but details are lacking. According to a Pennzoil spokesman, the company will join forces with Jiffy to try to get hundreds of independent quick-lube chains to brand up with Jiffy, with some financial or other assistance by Pennzoil on a station-by-station basis.

Minit-Lube, Salt Lake City, is the second largest chain, with a current count of 281, reports Bonnie Nangle, advertising director. Of the total, 191 are company stores and 90 are franchises.

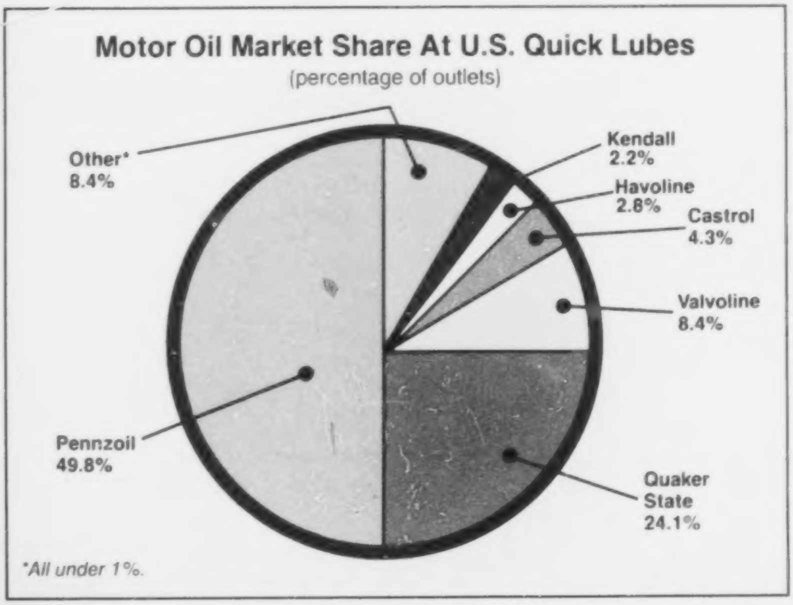
Since Quaker State, Oil City, Pa., acquired the company in November 1985 and committed $75-million to expansion, Minit-Lube is one of the fastest growing chains. This acquisition has helped Quaker State rise off and on into first place in U.S. motor oil market share, a position it has been swapping with Pennzoil in recent years. Minit-Lube added 127 units in 1987 and plans 65 more in 1988.

Nangle reports the average number of lube jobs for the chain is 42 a day, the typical basic charge is $19.95, and the average ticket is $23.31. The latter is recognized to be low, but it's consistent with Minit-Lube's determination to avoid overselling, Nangle says.

Valvoline reports 110 outlets, making it third. It markets under a variety of brands because it acquired going companies beginning late in 1986. In new markets, expansion will probably be made under Instant Oil Change, the name of one of the companies it purchased in Michigan.

Unlike Jiffy, which markets mainly through franchises, Valvoline's quick lubes are all company-owned. With a program to build 150 quick lubes in a year, Valvoline is probably the fastest growing company-owned quick-lube business in the country.

Entering new markets has given Valvoline further confidence in the viability of quick lubes. Says John F. Boehm, chairman and CEO of Valvoline, "Consumers



have accepted it well in new markets, which points a lot to its basic strength. We've gone into markets where it has not been an established business and have been very gratified at the acceptance we've gotten."

Boehm continues, "Our program was to build 150 outlets. That's three a week. That's more per week than McDonald's ever opened in their history."

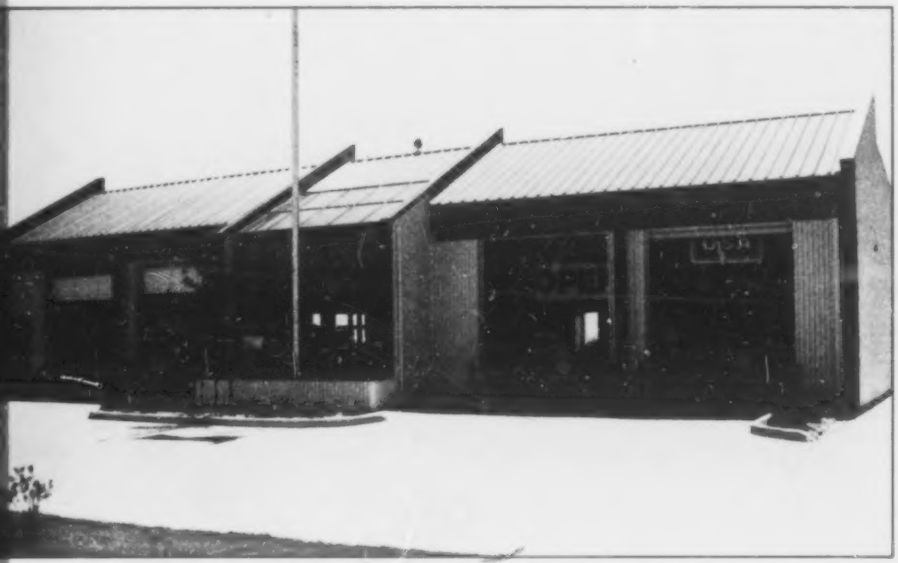
Valvoline plans to have a total of about 500 by 1991, probably all owned and operated, although the company might begin franchising before then. Says Boehm, "We recognize that at some point there's going to be a demand for our system and products and we're not going to be able to expand fast enough, so franchising is certainly part of our future."

Fourth is probably Grease Monkey, based in Denver. According to a survey done early in 1988 by Automotive Parts and Accessories Assn. (APAA), Grease Monkey has 102 quick lubes, with 298

GREASE MONKEY
FREE CAR WASH WITH FULL SERVICE
EXIT
QUAKER STATE
1250

Another fast growing quick lube chain is Denver-based Grease Monkey with a reported 102 outlets and another 298 units in various stages of development. Denver is one of the oldest and strongest quick lube markets.

Can majors make up for lost time in quick lube boom?



USA Fast Lube, also based in Denver, has backing from Mobil for expansion. Chain sells Mobil oil and accepts that company's credit card.

reportedly "in process."

McQuicks Oilube, Muncie, Ind., has 46, with 66 more planned in the next three months, APAA reports.

A newcomer to be reckoned with is a joint venture between Kendall Refining, a division of Witco Corp., and Avis. The first Avis Lube of a planned nationwide chain opened in Elmont, N.Y., in February.

The two companies formed a real estate partnership, 60% owned by Witco, to acquire and lease properties for Avis Lube installations. Only a few Avis Lubes will be company owned; the remainder will be owned by franchisees.

Vince Russo, vice president and general manager of Avis Lube, says the company has "substantial commitments for over 350 franchised locations in 26 states." Reported under development are 56 units, and he expects to have more than 100 opened by the end of 1988.

Following these are a number of smaller quick-lube companies, and also a significant number of tuneup chains, some quite large, that also do quick lubes.

In listing the tuneup chains, APAA does not report how many stores do quick lubes, though possibly all do in some cases. However, they might not have the underground pits, the absence of which limits the speed, thoroughness, and appeal of the new generation of quick lubes.

Precision Tune, Beaumont, Texas, has 360 stores and plans to triple that number by 1991, APAA reports. Econo Lube n' Tune, Newport Beach, Calif., has 150, with plans for 50 more in 1988. Sparks Tune-Up, King of Prussia, Pa., has 145, with plans for 80 more in a year. Tune-O-Mize, Nashville, Tenn., is listed with 130 stores.

What majors are doing

Major-company quick-lube experiments and projects run the gamut, but so far none is offered as a separate franchise. Some are mutual deals with existing chains, some are company-owned new units, and some are built by marketers with company incentives.

At this juncture, no major oil company is known to be committed to a major quick-lube building program.

No attempt has been made to identify all the oil companies that may be encouraging dealers to dedicate bays to some kind of quick lube service, but here's a rundown of key developments. Some information is unconfirmed because of the reluctance of some companies to provide details on market tests.

Amoco is testing quick lubes in the Minneapolis area under the name Amolube Express Oil Change. The first one, located at a mall, is a four-bay unit in a building with a gasoline pumper, food shop, car wash, and customer waiting room. Customers get a free car wash with a lube job. Of a total of six Amoco plans to have up and running by next fall, some will be standalones without pumps, but located next to pumper/C-stores.

Chevron is planning to add quick lubes at some new stations as additional profit centers. Division managers can recommend a limited number of quick lubes for particular locations if market studies show they would be profitable there.

Citgo is planning a quick-lube building incentive program for its jobbers, and is also talking over joint ventures with certain existing small quick-lube chains.

Exxon has signed a partnership with a big Canadian chain, Mr. Lube International. The major will test some three-bay Mr. Lube U.S. centers in a number of U.S. cities, without gasoline. The company is considering building some next to existing Exxon stations.

Marathon provides an optional quick-lube conversion kit for one bay of existing stations if recommended by the sales representative. Startup fee is $700, and there's an additional annual fee of $100. The package includes signage and promotional materials. Some 30 were reported approved initially.

Mobil is providing expansion financing to USA Fast Lube, Denver. The Fast Lubes will sell Mobil oil, of course, and also accept the Mobil credit card. Mobil is also reported planning to launch its own quick lubes this year.

Phillips, which markets entirely through jobbers, has worked out an incentive and rebate program to encourage jobbers to open quick lubes. Phillips reportedly is hoping to see a couple dozen on the street by year end.

Texaco tested a few quick lubes in Houston and Atlanta, and is trying to encourage jobbers to build some Express Lube outlets. To that end, it gives a 40¢ a gal. rebate on all bulk lube purchases for five years.

Unocal has put together a package to help its jobbers east of the Rockies build ExpressLubes. Reportedly these can be new or rebuilt, and the jobber can decide whether or not to handle gasoline. A co-op advertising and promotion package is also available. Under another company program, 100 Unocal interstate truckstop operators are offering truck "quick" lubes, which take about an hour. More of the total 148 I-state truckstops are expected to add quick lubes, but at the operator's option. Suggested price is $99.95 for most trucks. Aim is to offer uniform, one price service across the truckstop system.

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June 1988

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How Midwest Jobber Grew By Diversifying
What Makes Parking Lot Fast Lube Work
Why Fired Exec Likes Life As Consultant

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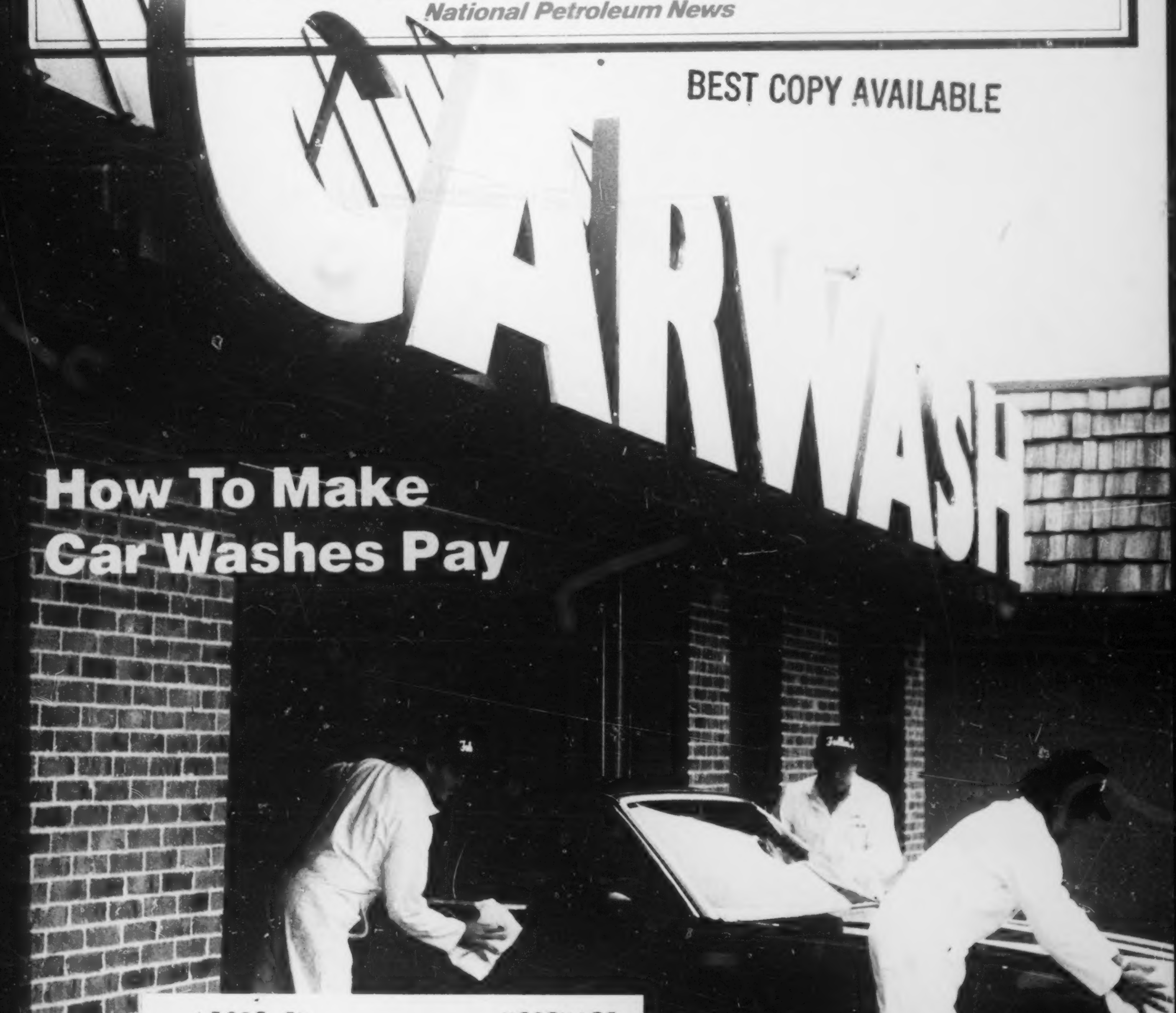

How To Make Car Washes Pay

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NATIONAL PETROLEUM NEWS
Established in 1909

VOL. 80 NO. 6

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Editor's Viewpoint

Legislation to raise the federal minimum wage from $3.35 to $5.05 an hour over the next four years was to have been voted on by the House of Representatives in April. However, this vote was delayed until mid-May, and there was some doubt it would be acted on even then. Speculation is that House leaders—already encountering tough lobbying from business groups—didn't like the message brought back to Washington by Representatives returning from Easter recess, where they apparently took heat from employers in their districts.

Although the bill is still alive and well, the vote delay is considered significant. One Washington source says it's "unheard of" for pressure from the business community to prompt such a delay in this kind of legislation.

The other key factor stalling action on the bill falls into the category of poetic justice. House Democrats ordered the Congressional Budget Office (CBO) to study the effects of an increased minimum wage. The Congressmen didn't like the results. The CBO estimates that the higher minimum wage will cost more than a half million jobs, slow economic growth and contribute to inflation. For some reason, that surprised them.

Even more ironic, according to a spokesperson from the National Assn. of Convenience Stores, is that this was the second report the CBO was told to do by the Congressmen. The findings of the first one were supposed to have been so bad that the report became very scarce very quickly, and the CBO was instructed to do the second study.

Let's hope the message gets through. It's an important issue. There may be jobbers who aren't interested because they don't pay minimum wage anyway. But they do have to pay a "competitive" wage, and that competitive wage will almost certainly rise if the higher minimum wage is enacted.

Competition, as usual, is the operative factor, and it will make the minimum wage irrelevant. Since the last minimum wage increase more than a decade ago, the largest single economic force in the country—the "baby boomers"—have for the most part progressed beyond entry level posts. So, there are a lot less employees available for entry level jobs. Or, to put it another way, there are more employers competing for fewer entry level employees and supply and demand may well drive up the entry level wages. That's the way the market works—but because it usually exerts itself gradually and in response to real conditions, it smooths out the bumps and makes transitions tolerable instead of traumatic. That's more than can be said of politically inspired government mandates.

—Frank M. Victoria

National Petroleum News (NPN) (ISSN 0149-5267) is published monthly by Hunter Publishing Co., Inc., 950 Lee Street, Des Plaines, Illinois 60016. (312) 296-0770.

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience-store items. Position, company and segment of industry must be indicated on subscription orders.

Basic **subscription rates** for one year to individuals in the petroleum marketing industry are: U.S. $54; Canada $63 (U.S. $); Foreign surface mail $69 (U.S. $); Foreign airmail $104 (U.S. $). Non-industry personnel rates for one year are: U.S. $69; Canada $78 (U.S. $); Foreign surface mail $84 (U.S. $); Foreign airmail $128 (U.S. $). **Single copy price:** U.S. & Canada $8.00 (includes first class postage); Foreign $10.00 (includes airmail postage). **Mid-June Factbook:** U.S. $50; Canada $60; Foreign $70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. **Change of address:** Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (312)296-0770, 9 a.m. to 4 p.m.

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Some old-line marketers might find it hard to believe, but car washes can deliver a self-sustaining profit stream beyond the "free-wash-with-fill" pitch. Here's how marketers make car washes pay. **Page 32**

Getting fired is usually a downer, but for veteran marketing exec Donald McCoy it opened the gates to a fascinating new career as a globe trotting consultant. **Page 48**

Here's a new wrinkle in the fast-growing lube service business—a parking lot lube service that makes money. Entrepreneur Christian Vigneaud signs up the company first, then the company's parking lot users. **Page 52**

• TRENDS

Antifreeze Squeeze Bodes Higher Prices

Antifreeze is expected to be costlier and harder to get come winter. Prices did not fall last winter as they almost always did in the the past, and the reason why is a forewarning that even higher prices are coming in the season ahead.

A common complaint of antifreeze suppliers in the past has been that no matter how good the situation looked going into the winter season, prices have always managed to tumble, somehow. "That's right – long supply and cratering prices – but that's anything but the case today," a chemical supplier says.

The reason is that there's a serious worldwide supply pinch on ethylene, one of the principal components of ethylene glycol or antifreeze.

If you saw national brands on store shelves last year for $4.99 a gal. or thereabouts, and private brands for $3.49 or thereabouts, you might prepare yourself to see $6.99 or higher and $4.99 or higher, respectively, trade reports indicate.

A recession might slow down EG sales and take the pressure off antifreeze prices and supplies, but this isn't considered likely, particularly in an election year when so much rides on how the economy is running.

Antifreeze producers, or blenders, begin in April, May, and June to make arrangements to take deliveries from EG manufacturers July through September for the consumer buying surge coming October through December.

A major EG manufacturer reported in April, "Producers of antifreeze who normally buy ethylene glycol right now are finding it more difficult to get suppliers to commit volumes to them. They're finding out some suppliers may want to limit them, or may be indefinite as to how much they will commit."

Such tightness goes hand in hand with price increases. EG suppliers have been jumping prices for seven or eight months, with wholesale prices at first rising a dime or 15¢, then jumping 30¢, adding up to a total increase of $1-$1.25 already in April.

A salesman for a major EG manufacturer says Texaco jumped its EG price 80¢ a gal. in April, and he admitted, "I don't know when this is going to stop."

One of the main reasons for the squeeze is that ethylene, which is the tight component, can be used in the manufacture of more profitable products. Some such products mentioned in the trade are polyester fibers, polyester film, and polyester bottles, emphasis on the last.

The current prime culprit is considered to be plastic bottles such as liter plastic bottles for soda pop, squeezeable bottles for ketchup, mustard, etc.

Other problems are that exports from the United States have risen, and there have been plant problems around the world, particularly in Brazil, which is a big supplier to the U.S. Northeast.

The available ethylene seeks its most profitable use, with few favors given. A case in point is that although Du Pont is a major manufacturer of ethylene, its subsidiary, Conoco, is thinking of pulling out of the antifreeze market—maybe.

Glenn Personey, Conoco's manager of packaging and distribution, lubes and antifreeze, reports, "Were in the middle of an economic analysis to figure out what's best for us."

He says there are three alternatives: 1) Purchase ethylene glycol and continue to blend antifreeze using some kind of "contract packager supply system;" 2) obtain "turnkey" supplies of antifreeze, which would have the advantage of getting rid of the capital requirements of maintaining a national antifreeze supply system; and 3) withdraw from the market. "I guess there's some possibility of that, but I wouldn't say it's really great," he adds.

Higher antifreeze prices could hurt sales. A chemical supplier says, "When people start to look at maybe paying $7 or more for antifreeze versus the $2.99 they might be used to, some will think twice about changing it this winter.

—by Mark Emond

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

MARCH	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$0.920	$0.850	$0.904	$1.074
Regions:				
Northeast	.967	.879	.931	1.106
North Central	.904	.855	.899	1.054
South	.920	.843	.899	1.067
West	.901	.845	.894	1.059

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	4/29/88	5/1/87
Gasoline (Total)	229,992	243,479
Gasoline (Unleaded)	146,233	142,008
Jet kerosine	37,771	40,894
Distillates	94,616	100,151
Residual	40,916	38,034

** Included in gasoline total*
Source: American Petroleum Institute

NPN

NATIONAL PETROLEUM NEWS JUNE 1988

Exxon (Ho Hum) Tops All Comers In Asset Values

Exxon, which has been the biggest U.S. oil company for so long it's hard to remember when it wasn't, grew a bit more in 1987—about $5-billion worth.

Exxon's total assets, according to its annual report, amounted to $74.1-billion last Dec. 31, up 6.6% over 1986 and a new all-time high for the 20th consecutive year.

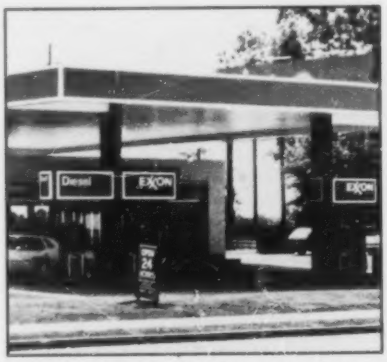
Second place in the standings belongs to Mobil Corp., a giant in its own right but only a little more than half the size of the No. 1 company. Mobil's assets were $41.1-billion, an increase of 4.4% over 1986.

Chevron, which has been playing sort of a musical chairs game with Texaco in recent years, edged ahead of the beleaguered White Plains (N.Y.) oil company again and took command of the No. 3 place in the standings.

Texaco was fourth, followed by Shell, which has been firmly ensconced as No. 5 for three years. Shell experienced a 13% growth in assets in 1987, making it the leading ground gainer of the year, percentage-wise.

Four oil companies with assets of $1-billion or more saw their totals in 1987 achieve new all-time highs. They were Exxon, Shell, BP-America and American Petrofina. BP-America recorded a 15.5% growth in 1986, primarily as a result of the take-over of The Standard Oil Co. by BP-London last summer, a reshuffling of assets and a restatement of their values.

Looked at from another angle, however, this means that the two fastest growing oil marketers in the U.S., in terms of assets, last year were the American subsidiaries of British and British-Dutch conglomerates.



In round terms, 1987 was a relatively good year for most of the oil marketers in the enhancement of their assets. Two out of three of the top 23 companies improved their positions in 1987. But—and this is a relatively big "but" too—all but Exxon, Shell, BP-America and American Petrofina are still looking back at peak years which occurred from two to five years ago.

Below is the boxscore for easy reading and comparisons:

Assets And Peak Values Of Top Oil Marketers

(in billions of dollars)

	Rankings		Current Assets			Peak Assets		
	1987	1986	1987	1986	% Chng.	Year	Assets	% Chng.
Exxon	1	1	$74,072	$69,484	6.6%	1987	$74,072	0.0%
Mobil	2	2	41,140	39,412	4.4	1984	41,851	(1.7)
Chevron	3	3	34,465	34,583	(0.3)	1984	45,404	(24.1)
Texaco	4	4	33,962	34,940	(3.0)	1984	37,774	(10.1)
Shell	5	5	29,634	26,214	13.0	1987	29,634	0.0
Amoco	6	6	24,827	23,706	4.7	1983	25,805	(3.8)
BP-America*	7	8	23,287	20,169	15.5	1987	23,287	0.0
Arco	8	7	22,670	21,604	4.9	1983	23,282	(2.6)
Tenneco	9	9	18,500	18,021	2.7	1985	20,437	(9.5)
Conoco	10	10	13,300	13,000	2.3	1985	14,115	(5.8)
Sun	11	12	12,580	12,396	1.5	1985	12,923	(2.7)
Phillips	12	11	12,111	12,403	(2.4)	1984	16,955	(28.6)
Unocal	13	14	10,062	10,246	(1.8)	1985	10,797	(6.8)
Marathon	14	13	9,475	11,022	(14.0)	1986	11,022	(14.0)
Coastal	15	15	7,989	7,887	1.3	1985	8,258	(3.3)
Amerada Hess	16	16	5,300	4,914	7.9	1984	6,353	(16.6)
Ashland	17	17	4,058	3,805	6.6	1983	4,210	(3.6)
Dia. Sham.**	(c)	18	—	3,517	—	1983	6,024	—
Pennzoil	18	19	3,305	3,369	(1.9)	1983	3,517	(6.0)
Kerr-McGee	19	20	3,071	3,090	(0.6)	1983	3,806	(19.3)
Murphy	20	21	2,067	1,980	4.4	1982	2,990	(30.9)
Am. Petrofina	21	22	1,836	1,777	3.3	1987	1,836	0.0
Citgo	22	23	1,191	1,209	(1.5)	1982***	1,397	(14.7)

*Formerly The Standard Oil Co., taken over 100% by BP-London and assets restated for 1986 and 1987 to reflect new U.S. company; **Diamond Shamrock split itself into two companies in 1987, upstream exploration and production and downstream refining and marketing; assets of the new downstream company were less than $1-billion—$825-million to be specific; ***Citgo had assets of $6.0-billion in 1981 but that was before it was dismantled by new take-over owners.

Benign '87 Octane Report Trails Marketplace Fervor

Although octane numbers have been moving up for some time, those of last summer (1987) showed little improvement over prior years, according to the latest report of the National Institute for Petroleum Energy and Research.

The new semi-annual survey, published in April, pegged premium-grade octane numbers at 91.8 in the warm weather months of 1987, with unleaded regular at 87.4 and leaded regular at 88.7. This was an increase over the preceding summer of one-tenth of a point for the premium grade, a standstill for unleaded regular and a decline of one-tenth of a point for leaded regular.

A new survey covering last winter (1987-88) was completed recently and the statistics are being collected now and analyzed in Niper's Bartlesville, Okla., headquarters but the results will not be known until next fall. This is the normal tracking pattern for these semi-annual studies sponsored by industry and government.

What makes the summer-1987 study seem so bland is the fact that virtually all of the big oil companies and most of the smaller ones are currently selling premium grades with an octane number of 92.0 and better. Many are at the 93.0 level. Some of the alcohol-enhanced gasolines are at 92.0 to 93.0 and at least one in South Texas scored 93.8.

That's not all, by any means. Sun, in mid-April, announced that hundreds of stations supplied by its Marcus Hook, Pa., refinery are now selling 94.0 octane. Sun had been the highest in all marketplaces for the past three or four years with a guaranteed number of 93.5 octane at all of its premium grade pumps.

There's at least one blender on the East Coast who's selling 95.0 octane via his own stations and his jobber-supplied outlets [*NPN*—April '87, Page 21].

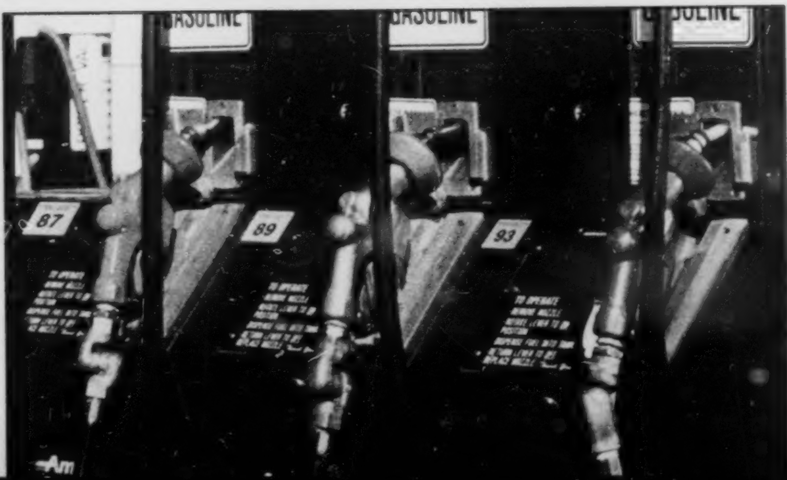
Meantime, this is what the latest Niper survey showed for the past five years:

National Gasoline Octanes, Summer 1987
(R+M divided by 2)

Year/Season	Leaded Regular(a)	Unleaded Regular(b)	Premium(c)
1987 Summer	88.7	87.4	91.8
'86/'87 Winter	88.7	87.2	91.8
1986 Summer	88.8	87.3	91.7
'85/'86 Winter	88.8	87.3	91.8
1985 Summer	88.8	87.4	91.7
'84/'85 Winter	89.1	87.4	91.6
1984 Summer	89.0	87.3	91.7
'83/84 Winter	88.8	87.3	91.3
1983 Summer	89.0	87.5	91.4
Regional Octanes			
Northeast	89.1	87.7	91.9
Mid-Atlantic	89.3	87.5	92.0
Southeast	89.1	87.4	92.1
Appalachian	89.1	87.5	92.0
Michigan	89.2	87.4	91.7
North Illinois	89.1	87.2	91.6
Cent. Miss.	89.1	87.4	91.7
Lower Miss.	89.2	87.4	91.8
North Plains	88.5	87.1	92.0
Central Plains	88.5	87.3	91.2
South Plains	88.9	87.2	92.0
South Texas	89.2	87.5	91.8
S. Mountain Sts.	87.6	87.1	91.8
N. Mountain Sts.	87.3	86.8	91.4
Pac. N'West	88.3	87.1	91.7
N. Calif.	88.1	88.1	92.1
S. Calif.	88.3	87.5	92.0

(a) Below 93 octane; (b) Below 90.0 octane; (c)90.0 octane and above. R+M divided by two is the federal formula meaning Research plus Motor numbers divided by two.

Source: Motor Gasoline, Summer 1987, National Institute for Petroleum Energy and Research, Bartlesville, Okla., published March 1988.



Audi Favors Additives For Car Performance

After evaluating the value of gasoline additives, auto manufacturer Audi of America joined BMW when it acknowledged that additives are effective in cleaning the entire fuel intake system in vehicles.

To prevent deposits from forming, Audi recommends its owners use a fuel additive which contains Techron, which is formulated to help keep valves and intake ports clean. For years, BMW has been recommending periodic use of Techron, which is manufactured by Chevron, to maintain a clean intake system and prevent engine hesitation, stalling, loss of power, reductions in fuel economy and an increase in exhaust emissions.

Texaco Endorses Lead Substitute

Citing company tests and research, Texaco recommended ValvTect Protective Lead Substitute for marine engines.

Texaco called the additive the "most effective of those evaluated to date." ValvTect was chosen because of test data and its nationwide availability to customers.

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6/29/88

$50.00

ANNUAL ISSUE

NPN

National Petroleum News

1988

fact book

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02120814ACQUSCONGR452ATO#0191
SRI ACQUISITIONS   NPN
ACQU EDITOR SRI   C
CONGRESSIONAL INFO SERVICE
4520 EAST-WEST HWY STE 800
BETHESDA   MD 20814

NATIONAL PETROLEUM NEWS
Established in 1909

Vol. 80 No. 7

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Looking Things Over

A veteran reader suggests that the best place to start crunching the mass of numbers that appear annually in the NPN Factbook—and to put them into some sort of perspective—is to turn to the graph representing trends in the world price of crude oil (this year it's on p128).

"At any point over a span of time," this reader says, "the average price in a barrel of crude is a good barometer of how well this industry is doing. Take your reading from almost any standpoint—cash flow, profits, assets, capital investments, exploration and production, employment—and it's a good bet that the crude price trend line reflects industry performance in almost any of those categories."

Nobody has to be reminded of what a pounding the industry took in 1986 when the price of crude bottomed out at below $10 a barrel. Now, halfway through 1988, we have a two-year overview to assess the damage of the 1986 price collapse—and to witness as well the partial return to economic well-being brought about in large part by the modest restoration in crude prices in late 1986 and 1987.

For example, in 1986 the revenues of every one of the top 22 oil marketing firms spilled downwards from 1985 levels, not surprisingly, with some dropping 30% to 50%. Assets, profits and capital outlays were also down for most companies. Industry employment declined by 141,000 that year.

In 1987, with crude prices on the rise again, 21 of the top 23 firms had improved revenues and 18 of those increased profits. The combined cash flow of the companies was up more than $33-billion in 1987. Shows what a couple of notches in the crude index can do. Company profits were up a total of about $600-million in 1987, an amount pared drastically by Texaco's singular $4.4-billion loss last year.

Other favorable signs are beginning to appear, like Spring blooms sprouting up after a harsh winter. Planned capital investments in exploration, production, refining and transportation are on the upswing. Marketing investments are apparently headed toward a record $5-billion per annum level by the end of the decade. Demand is increasing, refinery throughput is higher and even drilling activity has begun to perk up.

The industry may never again attain the high level of activity, profitability, etc. of, say, 1980 or 1981. But it has certainly moved back into the comfort zone.

—Donald M. Smith

National Petroleum News (NPN) (ISSN 0149-5267) is published monthly by Hunter Publishing Co., Inc., 950 Lee Street, Des Plaines, Illinois 60016. (312) 296-0770.

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience-store items. Position, company and segment of industry must be indicated on subscription orders.

Basic **subscription rates** for one year to individuals in the petroleum marketing industry are: U.S. $54; Canada $63 (U.S. $); Foreign surface mail $69 (U.S. $); Foreign airmail $104 (U.S. $). Non-industry personnel rates for one year are: U.S. $69; Canada $78 (U.S. $); Foreign surface mail $84 (U.S. $); Foreign airmail $128 (U.S. $). **Single copy price:** U.S. & Canada $8.00 (includes first class postage). Foreign $10.00 (includes airmail postage). **Mid-June Factbook:** U.S. $50; Canada $60; Foreign $70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. **Change of address:** Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (312)296-0770, 9 a.m. to 4 p.m.

Postmasters: Send address changes to NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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Ranking The Top 23 Marketing Companies (a)

	Total Assets		Gross Revenues		Net Income		Sales Ranking Among Top 500	
	1987	1986	1987	1986	1987	1986	1987	1986
Exxon	1	1	1	1	1	1	2	2
Mobil	2	2	2	2	3	2	5	5
Chevron	3	4	4	4	6	6	11	10
Texaco	4	3	3	3	19	5	7	8
Shell	5	5	5	6	4	4	13	15
Amoco	6	6	6	5	2	3	14	13
BP-America (b)	7	9	9	11	7	21	22	35
Arco	8	7	7	7	5	7	18	20
Tenneco	9	8	8	8	18	13	21	21
Conoco (c)	10	10	NR	NR	NR	NR	NR	NR
Sun	11	12	11	10	8	8	43	33
Phillips	12	11	10	9	16	9	32	31
Unocal	13	13	12	12	12	11	46	45
Marathon (c)	14	14	NR	NR	NR	NR	NR	NR
Coastal	15	15	14	14	11	12	57	57
Amerada Hess	16	16	15	15	9	15	87	92
Ashland	17	17	13	13	10	10	60	54
Diamond Shamrock (d)	—	18	—	16	—	17	—	130
Pennzoil	18	19	18	19	15	13	206	200
Kerr-McGee	19	20	16	17	14	19	156	152
Murphy	20	21	19	20	17	18	235	247
American Petrofina	21	22	17	18	13	16	161	182
Citgo (c)	22	23	NR	NR	NR	NR	NR	NR

(a) As ranked by Fortune 500, April, 1988; (b) Formerly the Standard Oil Co.; (c) Neither Conoco or Marathon, as wholly owned subsidiaries, issue full financial statements as they are not ranked by Fortune; The same applies to Citgo, which is a privately owned corporation. (d) Diamond Shamrock split itself into two companies in 1986 and is no longer ranked by Fortune 500; NR = Not Ranked by Fortune 500.

Exxon, with $74-Billion in Assets, Tops Mobil and Chevron in Rankings

Exxon, long the No. 1 company among U.S. oil marketers, added more substance to its corporate body in 1987 and, in so doing, widened the gap between it and the next in line, Mobil, by close to $5-billion. As a matter of fact, Exxon was within $1.0-billion of being bigger than the next two companies combined.

Exxon had $74.1-billion in assets at the end of 1987, according to its annual report. Mobil, by way of comparison, had $41.1-billion—80% less than the leader.

The $74.1-billion reflected a growth of $4.6-billion, or 6.6%, for Exxon in 1987. Mobil also experienced an increase in assets in 1987, moving up from $39.4-billion in 1986 to $41.1-billion last year. This was an increase of 4.4% for Mobil.

Chevron and Texaco, which have been playing kind of a musical chairs game for the No. 3 and No. 4 positions in recent years, wound up 1987 with the California-based oil company back in third place again and Texaco in fourth. Chevron's assets were $34.5-billion.

Texaco's assets eroded 3% in 1987 but then 1987 was anything but happy for Texaco anyhow. Fighting to avoid payment of a $10-billion court verdict it lost to Pennzoil Corp., Texaco filed for voluntary bankruptcy last spring and seemingly was only two jumps ahead of the sheriff's posse the rest of the year.

Texaco was expected to emerge from bankruptcy this past spring but it also was expected to sell off substantial pieces of its assets to pay some of the bills, including a $3-billion settlement with Pennzoil. Some industry people thought Texaco might slip down the line in 1988—behind

(Continued on next page)

Oil Company Rankings by Marketers With

	Assets (a) (in billions of dollars)				
	1987	1986	1985	1984	1983
Exxon	**$74,072**	$69,484	$69,160	$63,278	$62,963
Mobil	41,140	39,412	41,752	**41,851**	37,022
Chevron	34,465	34,853	38,889	**45,404**	24,010
Texaco	33,962	34,940	37,703	**37,774**	27,199
Shell	**29,634**	26,214	26,528	23,729	22,169
Amoco	24,827	23,706	25,198	25,734	**25,805**
BP-America (b)	**23,287**	20,169	18,330	17,487	16,362
Arco	22,670	21,604	20,279	21,952	**23,282**
Tenneco	18,500	18,021	**20,437**	18,205	17,994
Conoco	13,300	13,000	**14,115**	13,497	NA
Sun	12,580	12,396	**12,923**	12,789	12,466
Phillips	12,111	12,403	14,045	**16,955**	13,094
Unocal	10,062	10,246	**10,797**	10,203	9,288
Marathon	9,475	**11,022**	10,074	9,949	9,332
Coastal	7,989	7,887	8,258	3.295	3,338
Amerada Hess	5,300	4,914	6,219	**6,353**	6,217
Ashland	4,058	3,805	3,928	4,037	4,108
Diamond Shamrock (c)	—	3,517	4,618	5,396	**6,024**
Pennzoil	3,305	3,369	3,300	3,243	**3,517**
Kerr McGee	3,071	3,090	3,702	3,771	**3,806**
Murphy	2,067	1,980	2,661	2,685	2,792
American Petrofina	**1,836**	1,777	1,817	1,706	1,399
Citgo	1,191	1,209	1,274	1,246	1,392

(a) Boldface totals indicate peak years of individual compa[illegible]
(b) Formerly The Standard Oil Co., BP-America restated its ass[illegible] 1986 and 1987 to reflect the change-over.

(Asset Values, continued)

Shell and barely ahead of Amoco, now in sixth place. There's also the possibility that Texaco may be all but dismembered before the year is out.

Shell, whose assets have been increasing annually for years, held firmly to fifth place for the third consecutive year. Texaco's problems, plus its steady growth, should enable Shell to become the fourth largest marketing company by the end of this year. Shell's assets grew by 13% in 1987, 12% in 1985 and 7% in 1984, with only a minor setback, 1.2% in 1986 when just about everybody was foundering.

An item of interest in the ranking of the U.S. marketers by assets is the emergence of the new BP-America. This is the old Standard Oil Co., now a fully owned subsidiary of BP-London. But it's more than just the old Standard. In setting up its new American subsidiary, BP-London added various other energy assets to the portfolio. A restatement of these expanded assets then moved BP from ninth place in 1985 to eighth place in 1986 and seventh place in 1987. BP-America also has marketing expansion on its mind so it's likely that by the end of 1988 it will be giving Amoco a good run for the money and the honor of being the sixth largest oil marketer in the U.S. There was only about $500-million between them in the 1987 standings.

Four of the oil companies in the top 23, i.e., those with assets of at least $1-billion, hit all-time highs in their asset totals in 1987. They were Exxon, Shell, BP-America and American Petrofina. Two out of three oil companies improved their asset positions in 1987. The biggest loser was Marathon Petroleum, which suffered a 14% reduction.

The 1987 standings were infinitely better than the 1986 summaries. The collapse of oil prices had a dramatic impact on assets and only three of the 23 companies in this *NPN* scorecard managed to edge upwards. Some setbacks were in the neighborhood of one-fifth of the total assets of the affected companies.

Other significant changes in 1987 included the change-of-status for Diamond Shamrock. Last summer this Texas-based corporation split itself into two companies—an upstream exploration and production company and a downstream refining and marketing company. The latter, as a marketer, would nominally be continued on this *NPN* list without question. But since its assets now fall below the $1-billion mark, it no longer qualifies. Its current assets are $825-million and, all things considered, it may be back in the billion-plus by the early 1990s.

Assets of $1-billion or More

	% Change				Ranking by Year				
1982	'87 vs. '86	'86 vs. '85	'85 vs. '84	'84 vs. 83	1987	1986	1985	1984	1983
$62,289	6.6%	0.5%	9.3%	0.5%	1	1	1	1	1
35,216	4.4	(5.6)	0.2	19.3	2	2	2	3	2
23,490	(0.3)	(11.1)	(14.3)	89.1	3	4	4	2	5
27,214	(3.0)	(7.3)	(0.1)	38.7	4	3	3	4	3
21,376	13.0	(1.2)	11.8	7.0	5	5	5	6	7
24,289	4.7	(15.9)	(2.3)	0.3	6	6	6	5	4
16,016	15.5	6.5	4.8	6.9	7	8	9	9	9
21,633	4.9	(11.8)	(7.6)	(4.9)	8	7	8	7	6
17,378	2.7	(13.0)	12.3	1.2	9	9	7	8	8
NA	2.3	(7.9)	4.6	NA	10	10	10	11	NR
11,850	1.5	(9.6)	1.1	2.5	11	12	12	12	11
12,097	(2.4)	(11.7)	17.2	29.6	12	11	11	10	10
8,511	(1.8)	(6.2)	5.8	10.6	13	14	13	13	12
9,624	(14.0)	(8.8)	1.3	6.6	14	13	14	14	13
3,225	1.3	(4.6)	15.1	1.3	15	15	15	18	19
6,145	7.9	(21.0)	(2.1)	2.2	16	16	16	15	14
4,210	6.6	(3.1)	(2.5)	1.7	17	17	18	17	16
3,194	(c)	(23.8)	(14.4)	(10.4)	(c)	18	17	16	15
3,226	(1.9)	2.1	1.8	(7.8)	18	19	19	20	19
3,762	(0.6)	(16.5)	16.5	0.9	19	20	21	19	18
2,990	4.4	(25.6)	(10.9)	(3.8)	20	21	20	21	20
1,166	3.3	(2.2)	6.5	21.9	21	22	22	22	21
1,397(d)	(1.5)	(5.0)	2.2	(10.5)	22	23	23	23	22

(c) Diamond Shamrock split itself into upstream and downstream companies. The downstream company, Diamond Shamrock Refining and Marketing had assets of less than $1-billion in 1987—$825-million to be specific.

(d) Citgo had assets of $6.0-billion in 1961 just before it got caught up in the acquisition upheavals.

NR = Not Ranked—data not available.

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Assets—Peak Years vs. 1987

(in billions of dollars)

	Peak Year	Peak Year Total	1987	% Chng. '87 vs. Peak
Exxon	1987	$74,072	$74,072	0.0%
Mobil	1984	41,851	41,140	(1.7)
Chevron	1984	45,404	34,465	(24.1)
Texaco	1984	37,774	33,962	(10.1)
Shell	1987	29,634	29,634	0.0
Amoco	1983	25,805	24,827	(3.8)
BP-America (a)	1986	23,287	23,287	0.0
Arco	1983	23,282	22,670	(2.6)
Tenneco	1985	20,437	18,500	(9.5)
Conoco	1985	14,115	13,300	(5.8)
Sun	1985	12,293	12,580	(2.7)
Phillips	1984	16,955	12,111	(28.6)

(in billions of dollars)

	Peak Year	Peak Year Total	1987	% Chng. '87 vs. Peak
Unocal	1985	$10,797	$10,062	(6.8)
Marathon	1986	11,022	9,475	(14.0)
Coastal	1985	8,258	7,989	(3.3)
Amerada Hess	1984	6,353	5,300	(16.6)
Ashland	1983	4,210	4,058	(3.6)
Pennzoil	1983	3,517	3,305	(6.0)
Kerr-McGee	1983	3,806	3,071	(19.3)
Murphy	1982	2,990	2,067	(30.9)
Amer. Petrofina	1987	1,836	1,836	0.0
Citgo	1981	6,049	1,191	(b)

(a) Formerly The Standard Oil Co.

(b) Not comparable. Citgo was taken over in 1982 and many of its assets were absorbed elsewhere.

N.B.—Diamond Shamrock split itself into upstream and downstream companies in 1987; Thus the 1987 assets of the downstream company are not comparable.

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Financial

	Gross Sales-Operating Revenues (add 000)			Net Income (add 000)			Net Income % of Gross Sales	
	1987	1986	% Change	1987	1986	% Change	1987	1986
Amerada Hess Corp.	$4,784,598	$4,062,255	17.8	$229,860	($182,570)	—	4.8	—
American Petrofina	2,484,001	1,960,030	26.7	83,284	(24,569)	—	3.4	—
Amoco Corp.	20,174,000	18,281,000	10.4	1,360,000	747,000	82.1	6.7	4.1
Ashland Oil, Inc.	6,870,884	6,991,262	(0.02)	133,432	208,571	(36.0)	1.9	3.0
Atlantic Richfield Co.	16,282,000	14,487,000	12.3	1,224,000	615,000	(99.0)	7.5	4.2
BP America(a)	14,611,000	13,135,000	11.2	564,000	(188,000)	—	3.9	—
Chevron Corp.	25,205,000	24,351,000	0.4	1,007,000	715	40.8	4.0	2.9
Citgo Petroleum Corp.	3,952,200	4,112,300	(0.4)	85,725	43,578	96.6	2.2	1.1
Coastal Corp.	7,428,900	6,668,200	11.4	113,000	71,600	57.8	1.5	1.1
Conoco, Inc.	11,100,000	9,800,000	13.0	277,000	355,000	(22.0)	2.5	3.6
Diamond Shamrock Corp.	1,740,800	1,673,300	4.1	1,600	(64.8)	—	0.9	—
Exxon Corp.	83,335,000	76,555,000	10.0	4,840,000	5,360,000	(9.7)	5.8	7.0
Getty Petroleum Corp.	1,335,754	953,152	40.2	15,025	17,104	(12.2)	1.1	1.8
Marathon Oil Corp.	8,203,000	7,026,000	16.8	445,000	73,000	510.6	5.4	0.1
Mobil Oil Corp.	56,716,000	49,865,000	13.7	1,258,000	1,407,000	(8.9)	2.2	2.8
Murphy Oil Corp.	1,473,996	1,313,283	12.3	(43,638)	(194,750)	—	—	—
Phillips Petroleum Corp.	10,917,000	10,018,000*	9.0	35,000	228,000	(84.6)	0.3	2.3
Shell Oil Corp.	21,222,000	17,353,000	22.0	1,230,000	883,000			
Sun Co., Inc.	9,482,000	10,198,000*	(7.0)	348,000	345,000	0.01	3.7	3.9
Tenneco Inc.	14,790,000	14,235,000	3.9	(132,000)	145,000	—	—	
Texaco Inc.	35,315,000	32,591,000	8.4	(4,407,000)	725,000	—	—	2.2
Unocal Corp.	8,466,000	7,482,000	13.2	181,000	176,000	0.3	2.1	2.4

(a) Formerly Standard Oil
*Restated

Operating

	Net Crude Production b/d				Refinery Crude Runs b/d				Domestic Refined Product Sales b/d	
	Domestic		Foreign		Domestic		Foreign			
	1987	1986	1987	1986	1987	1986	1987	1986	1987	1986
Amerada Hess Corp.	62,635	65,877	64,141	83,638	371,000	293,000	—	—	411,000	358,000
American Petrofina	—	—	—	—	164,400	153,900	—	—	—	—
Amoco Corp.	394,000	394,000	408,000	416,000	842,000	855,000	53,000	59,000	918,000	936,000
Ashland Oil, Inc.	2,410	2,835	35,157	30,750	319,089	321,702	—	—	357,732	370,530
Atlantic Richfield Co.	665,000	659,000	63,000	75,000	613,000	652,000	—	—	680,000	670,000
BP America(a)	853,600	802,600	—	—	597,500	622,800	—	—	844,000	1,003,000
Chevron Corp.	506,900	546,200	394,600	400,600	1,387,700	1,335,100	490,300	464,800	1,591,000	1,547,000
Citgo Petroleum Corp.	—	—	—	—	61,355	64,053	179,363	173,455	448,000	496,000
Coastal Corp.	10,937	11,100	—	—	230,000	246,000	—	—	647,000	632,000
Conoco, Inc.	101,007		295,178		373,870	377,421	198,510		479,250	452,983
Diamond Shamrock Corp.	—	—	—	—	141,503	131,447	—	—	165,747	161,177
Exxon Corp.	756,000	761,000	990,000	953,000	1,026,000	1,080,000	1,955,000	1,952,000	1,057,000	1,106,000
Getty Petroleum Corp.	—	—	—	—	—	—	—	—	—	—
Marathon Oil Corp.	142,100	155,000	63,100	89,000	452,500	442,200	28,300	49,300	527,000	514,491
Mobil	338,000	342,000	336,000	357,000	645,000	643,000	918,000	902,000	865,000	841,000
Murphy Oil Corp.	15,904	15,897	33,182	37,367	88,155	82,369	21,139	21,474	96,546	88,044
Phillips Petroleum Corp.	287,000	316,000	113,000	124,000	302,000	301,000	—	—	513,000	513,000
Shell Oil Corp.	488,000	499,000	54,000	51,000	1,019,000	975,000	—	—	1,352,000	1,173,000
Sun Co., Inc.	130,500	137,600	39,800	20,600	427,200	416,100	63,200	60,400	705,900*	719,100*
Tenneco Inc.	100,890	97,869	42,830	39,386	139,569	126,759	—	—	177,321	167,050
Texaco Inc.	603,000	660,000	599,000	740,000	836,000	920,000	1,056,000	1,014,000	1,159,000	1,227,000
Unocal Corp.	164,000	166,000	93,000	96,000	417,000	404,000	—	—	479,000	442,000

*Restated

Quarterly and Full-Year Earnings—1987 vs.1986

(Add 000,000)

	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Full Year 1987	Full Year 1986	% Change
Exxon	$1,070.0	$1,150.0	$1,065.0	$1,556.0	$4,841.0	$5,360.0	(9.7)%
Mobil	252.0	304.0	319.0	389.0	1,264.0	1,407.0	(10.2)
Texaco	118.0	240.0	108.0	(4,762.0)	(4,407.0)	725.0	—
Chevron*	361.0	358.0	297.0	234.0	1,250.0	(1,411.0)	—
Shell	108.0	266.0	420.0	436.0	1,230.0	883.0	39.3
Amoco	260.0	311.0	412.0	377.0	1,360.0	747.0	82.1
Arco	239.0	330.0	315.0	340.0	1,224.0	615.0	99.0
Tenneco	29.0	46.0	(47.0)	(176.0)	(218.0)	(39.0)	—
BP-America(a)	—	—	—	—	2,257.0	(242.0)	—
Conoco(b)	55.0	64.0	127.0	82.0	277.0	355.0	(20.9)
Phillips	(32.0)	3.0	31.0	33.0	35.0	28.0	25.0
Sun	38.0	90.0	137.0	83.0	348.0	385.0	(9.6)
Unocal	60.7	62.0	28.9	29.8	181.4	175.8	3.2
Marathon(b)	115.0	218.0	125.0	(13.0)	445.0	73.0	510.0
Coastal	44.1	22.3	11.7	35.0	113.1	71.6	58.0
Amerada Hess	181.0	89.4	38.6	(79.6)	229.9	(182.6)	—
Ashland	26.3	0.7	40.0	66.0	133.0	209.0	(36.4)
Diamond Sham.(c)	2.7	2.2	(6.6)	3.3	1.6	(64.8)	—
Pennzoil	12.1	7.4	2.8	22.0	44.3	45.4	(2.4)
Kerr-McGee	20.2	27.3	18.8	14.7	81.0	(291.7)	—
Murphy	3.1	7.1	8.0	(61.0)	(43.0)	(194.8)	—
American Petrofina	19.8	28.7	21.2	13.6	83.3	24.6	—
Southland Citgo	25.0	47.5	49.7	—	—	—	—
Getty	1.8	1.2	4.8	8.0	15.0	17.1	(12.2)
Cumberland(d)	—	—	—	—	—	—	—

(a) Formerly the Standard Oil Co. The British Petroleum Co. acquired 100% control of Standard Oil in June 1987, resulting in accounting department changes which make the quarterly earnings neither relative nor comparable; full-year earnings are profits, not net. (b) Conoco and Marathon are pre-tax, operating profits; (c) Diamond Shamrock spun off upstream operations in 1st quarter, thus these totals are the new marketing company; (d) Cumberland privately owned and rarely discloses financial data.

* Chevron restated its 1986 and 1987 earnings in April 1988 to reflect accounting and tax recording provisions.

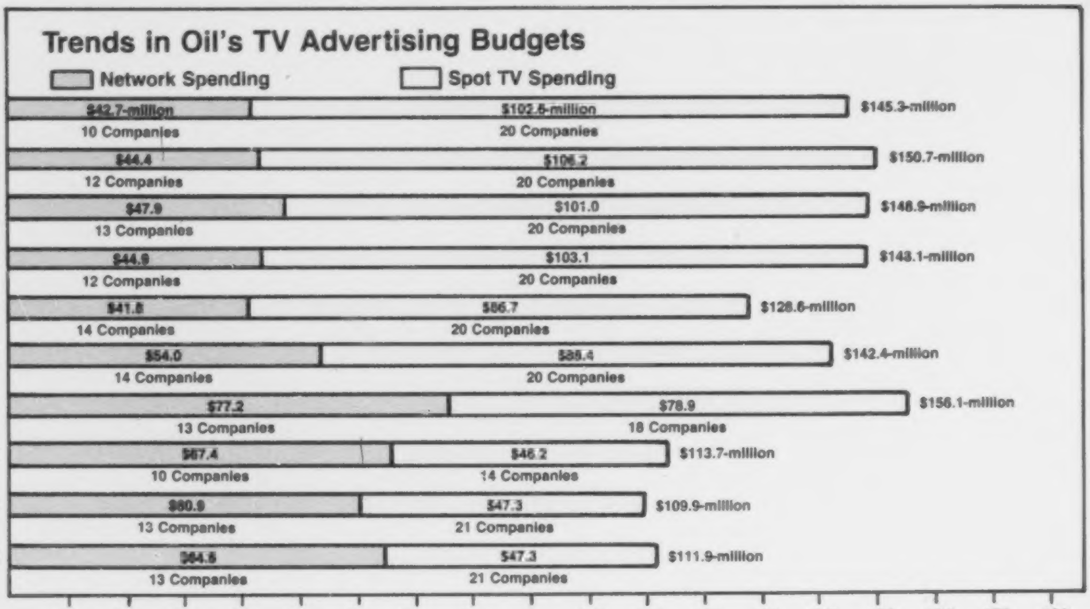
Downstream Earnings in 1987: Lacklustre Compared to 1986.

(Add 000,000)

	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Full Year 1987	Full Year 1986	% Change
Exxon	$36.0	$19.0	$60.0	$376.0	$491.0	$1,934.0	(74.6)%
domestic	(38.0)	(19.0)	7.0	82.0	32.0	478.0	(93.3)
foreign	74.0	38.0	53.0	294.0	459.0	1,456.0	(68.5)
Mobil	78.0	84.0	71.0	(27.0)	206.0	1,299.0	(78.8)
domestic	2.0	17.0	51.0	53.0	123.0	365.0	(66.3)
foreign	76.0	67.0	20.0	(80.0)	83.0	934.0	(91.1)
Texaco	6.0	18.0	31.0	69.0	124.0	825.0	(85.0)
domestic	(55.0)	(12.0)	4.0	(5.0)	(68.0)	128.0	—
foreign	61.0	30.0	27.0	74.0	192.0	697.0	(72.4)
Chevron*	(14.0)	22.0	20.0	163.0	191.0	1,191.0	(84.0)
domestic	(46.0)	(6.0)	54.0	115.0	117.0	640.0	(81.7)
foreign	32.0	28.0	(34.0)	48.0	74.0	551.0	(86.6)
Shell (domestic)	8.0	101.0	68.0	93.0	224.0	319.0	(29.8)
Amoco (worldwide)	(5.0)	55.0	97.0	69.0	216.0	362.0	(40.3)
Arco (domestic)	25.0	45.0	30.0	50.0	150.0	353.0	(57.5)
BP - America(a)	—	—	—	—	265.0	430.0	(38.0)
Conoco (domestic)(b)	55.0	64.0	(15.0)	73.0	177.0	414.0	(57.2)
Phillips (domestic)(b)	30.0	50.0	72.0	64.0	201.0	458.0	(56.1)
Sun	(5.0)	21.0	25.0	23.0	64.0	214.0	(70.1)
domestic	(12.0)	15.0	21.0	22.0	46.0	201.0	—
foreign	7.0	6.0	4.0	1.0	18.0	13.0	—
Amerada Hess	14.3	55.7	2.0	(195.0)	(79.6)	78.1	—

(a) See footnote in the table above; (b) Conoco and Marathon are operating and pre-tax, not net; ditto for Phillips downstream; (c) Ashland's fiscal ends 9/30 so these earnings are restated to reflect a normal 12-month period; (d) Diamond Shamrock spun off its upstream operations in early 1987.

*See footnote in the table above.



Source: Television Bureau of Advertising and NPN Factbook 1979-1987.

Network TV Spending

	(Add 000)				(Add 000)		
Company	1987	1986	% Chng.	Company	1987	1986	% Chng.
Quaker State	$12,324	$6,209	98	Mobil	$2,987	$3,040	(5)
Pennzoil	11,288	3,063	269	Unocal	1,673	1,836	(9)
Ashland	8,589	7,599	13	Phillips	1,631	6,939	(76)
Burmah (Castrol)	8,172	8,288	(1)	Witco (Kendall)	654	1,099	(40)
Texaco	4,366	4,326	1	Chevron	459	319	44

Spot TV Spending

Company	1987	1986	% Chng.	Company	1987	1986	% Chng.
Exxon	$20,570	$13,253	55	Sun	$4,552	$4,076	12
Chevron (Gulf)	16,966	16,953	0	DuPont (Conoco)	3,094	1,182	162
Amoco	14,416	13,779	5	Atl. Richfield	3,069	6,064	(49)
Shell	12,956	6,795	91	Am. Petrofina	2,214	1,097	102
Texaco	8,549	8,305	3	Amer. Hess	1,284	949	35
Mobil	8,534	8,295	3	Atl. Refining	1,088	777	40
Unocal	6,462	7,250	(11)	Quaker State	1,064	1,085	(2)
Phillips	6,402	1,631	293	BP (Sohio)	999	1,684	(41)
Ashland	5,349	4,829	11	USX (Marathon)	692	675	3
Burmah (Castrol)	4,857	2,747	77	Witco (Kendall)	652	1,213	(46)

Source: Television Bureau of Advertising from Broadcast Advertisers Reports.

A Decade of TV Budgets—$1.4 Billion

Over the past 10 years, a score and a half of oil companies—big and small—have spent in excess of $1.4-billion in promoting their products and services on television. Undoubtedly tens of millions more were spent in purely local advertising and product promotional programs like those of oil heat but there is no easy way to keep track of totals.

The Television Bureau of Advertising estimates that 30 oil companies spent more than $145.3-million on television advertising in 1987. The bulk of it went into TV's "spot market" while the balance went to the networks. TBA defines the "spot" market as primarily regional commercials and show sponsorship, and the network advertising as that placed on the three big syndicates—ABC, CBS and NBC.

Television generally gets about three out of every four dollars spent by the oil companies. This includes radio, network and spot, and print media, such as newspapers, magazines and circulars.

Since the early '80s, spot television has been getting the lion's share of the annual budgets (see graph above). In the late '70s and early '80s, it was the other way around, with ABC, CBS and NBC getting the most dollars. Significantly, the switchover from net to spot advertising paralleled the retrenchment of many oil companies from wide-open national concepts markets to more profitable regional and local operations. The spot advertising gave them more flexibility in matching their advertising "neighborhood" buying patterns and selected marketplaces.

Current Automotive Registrations

	Automobiles			Trucks and Buses			All Motor Vehicles			Motorcycles
State	**Registered 1986**	**Estimated 1987**	**% Chng.**	**Registered 1986**	**Estimated 1987**	**% Chng.**	**Registered 1986**	**Estimated 1987**	**% Chng.**	**Estimated 1987**
Alabama	2,522,043	2,534,000	0.5	934,891	936,000	0.1	3,456,934	3,470,000	0.4	56,000
Alaska	226,665	233,000	2.8	136,014	138,000	1.5	362,679	371,000	2.3	10,000
Arizona	1,647,879	1,698,000	3.0	697,642	742,000	6.4	2,345,521	2,440,000	4.0	80,000
Arkansas	929,254	952,000	2.4	496,993	507,000	2.0	1,426,247	1,459,000	2.3	20,000
California	15,364,800	15,978,000	4.0	4,395,460	4,630,000	5.3	19,760,260	20,608,000	4.3	684,000
Colorado	2,015,917	2,016,000	0.0	747,035	753,000	0.8	2,762,952	2,769,000	0.2	107,000
Connecticut	2,402,332	2,496,000	3.9	160,017	162,000	1.2	2,562,349	2,658,000	3.7	57,000
Delaware	378,639	386,000	1.9	101,026	106,000	4.9	479,665	492,000	2.6	9,000
Dist. of Col.	272,034	278,000	2.2	17,326	17,000	−1.9	289,360	295,000	1.9	3,000
Florida	8,263,294	8,752,000	5.9	2,098,218	2,191,000	4.4	10,361,512	10,943,000	5.6	227,000
Georgia	3,507,096	3,659,000	4.3	1,333,752	1,447,000	8.5	4,840,848	5,106,000	5.5	125,000
Hawaii	601,868	640,000	6.3	87,166	95,000	9.0	689,034	735,000	6.7	16,000
Idaho	535,142	536,000	0.2	322,184	322,000	−0.1	857,326	858,000	0.1	47,000
Illinois	6,060,698	6,084,000	0.4	1,358,837	1,325,000	−2.5	7,419,535	7,409,000	−0.1	214,000
Indiana	3,115,437	3,241,000	4.0	1,058,177	1,084,000	2.4	4,173,614	4,325,000	3.6	117,000
Iowa	1,894,724	1,890,000	−0.2	743,452	733,000	−1.4	2,638,176	2,623,000	−0.6	227,000
Kansas	1,496,336	1,518,000	1.4	679,687	685,000	0.8	2,176,023	2,203,000	1.2	86,000
Kentucky	1,809,057	1,838,000	1.6	876,205	907,000	3.5	2,685,262	2,745,000	2.2	43,000
Louisiana	1,938,267	1,868,000	−3.6	951,391	963,000	1.2	2,889,658	2,831,000	−2.0	48,000
Maine	645,316	694,000	7.5	227,114	222,000	−2.3	872,430	916,000	5.0	43,000
Maryland	2,774,029	2,830,000	2.0	587,272	621,000	5.7	3,361,301	3,451,000	2.7	84,000
Massachusetts	3,350,007	3,430,000	2.4	490,970	497,000	1.2	3,840,977	3,927,000	2.2	114,000
Michigan	5,421,198	5,493,000	1.3	1,410,564	1,446,000	2.5	6,831,762	6,939,000	1.6	247,000
Minnesota	2,391,990	2,400,000	0.3	694,990	707,000	1.7	3,086,980	3,107,000	0.6	132,000
Mississippi	1,350,114	1,374,000	1.8	419,659	424,000	1.0	1,769,773	1,798,000	1.6	23,000
Missouri	2,686,800	2,741,000	2.0	996,594	1,049,000	5.3	3,683,394	3,790,000	2.9	74,000
Montana	433,234	468,000	8.0	239,313	225,000	−6.0	672,547	693,000	3.0	26,000
Nebraska	852,669	871,000	2.1	427,977	435,000	1.6	1,280,646	1,306,000	2.0	27,000
Nevada	555,785	581,000	4.5	213,291	231,000	8.3	769,076	812,000	5.6	19,000
New Hampshire	893,733	972,000	8.8	177,514	192,000	8.2	1,071,247	1,164,000	8.7	67,000
New Jersey	4,769,000	4,870,000	2.1	498,489	503,000	0.9	5,267,489	5,373,000	2.0	118,000
New Mexico	828,715	894,000	7.9	491,406	513,000	4.4	1,320,121	1,407,000	6.6	47,000
New York	8,321,210	8,754,000	5.2	1,194,165	1,242,000	4.0	9,515,375	9,996,000	5.1	236,000
North Carolina	3,461,293	3,585,000	3.6	1,277,663	1,349,000	5.6	4,738,956	4,934,000	4.1	61,000
North Dakota	380,244	379,000	−0.3	267,419	262,000	−2.0	647,663	641,000	−1.0	26,000
Ohio	6,719,345	6,730,000	0.2	1,439,826	1,474,000	2.4	8,159,171	8,204,000	0.5	303,000
Oklahoma	1,877,256	1,893,000	0.8	1,025,135	1,041,000	1.5	2,902,391	2,934,000	1.1	67,000
Oregon	1,628,730	1,709,000	4.9	635,259	627,000	−1.3	2,263,989	2,336,000	3.2	82,000
Pennsylvania	6.090,520	6,267,000	2.9	1,386,497	1,457,000	5.1	7,477,017	7,724,000	3.3	196,000
Rhode Island	531,663	544,000	2.3	100,155	108,000	7.8	631,818	652,000	3.2	25,000
South Carolina	1,737,037	1,782,000	2.6	567,171	587,000	3.5	2,304,208	2,369,000	2.8	32,000
South Dakota	408,778	412,000	0.8	255,282	266,000	4.2	664,060	678,000	2.1	34,000
Tennessee	3,097,473	3,298,000	6.5	834,747	858,000	2.8	3,932,220	4,156,000	5.7	123,000
Texas	8,499,972	8,495,000	−0.1	3,906,636	3,926,000	0.5	12,406,608	12,421,000	0.1	240,000
Utah	749,633	760,000	1.4	361,000	365,000	1.1	1,110,633	1,125,000	1.3	46,000
Vermont	313,725	326,000	3.9	104,466	113,000	8.2	418,191	439,000	5.0	20,000
Virginia	3,610,396	3,711,000	2.8	921,384	1,007,000	9.3	4,531,780	4,718,000	4.1	76,000
Washington	2,610,390	2,716,000	4.0	1,141,352	1,190,000	4.3	3,752,242	3,906,000	4.1	144,000
West Virginia	810,743	826,000	1.9	359,395	369,000	2.7	1,170,138	1,195,000	2.1	32,000
Wisconsin	2,397,418	2,402,000	0.2	722,608	719,000	−0.5	3,120,026	3,121,000	0.0	185,000
Wyoming	250,714	237,000	−5.5	189,441	180,000	−5.0	440,155	417,000	−5.3	23,000
TOTAL	**135,431,112**	**139,041,000**	**2.7**	**40,760,227**	**41,948,000**	**2.9**	**176,191,339**	**180,989,000**	**2.7**	**5,148,000**

Source: Federal Highway Administration, Table SS86-3, published October, 1987.

Estimated Licensed Drivers, by Sex and States, 1986 and 1987

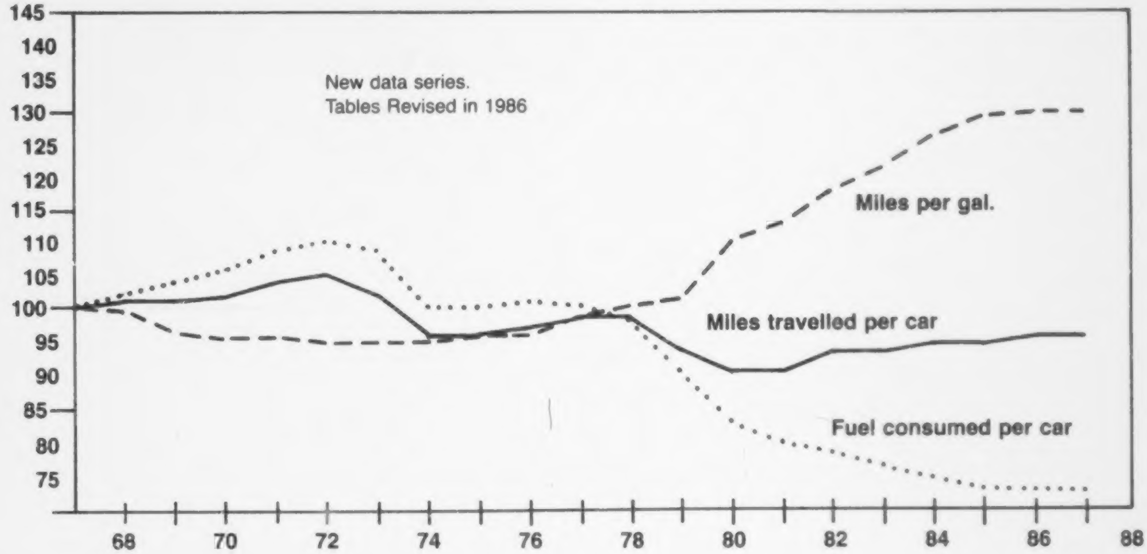
(Add 000)

	1986 (Actual)				1987 (Estimated)			% Change Total Drivers	
State	Male	Female	Total	% Male Drivers	Male	Female	Total	1987 vs 1986	1986 vs 1976
Alabama	1,322,727	1,221,988	2,544,715	51.98	1,346	1,246	2,594	1.9	22.1
Alaska	172,856	137,144	310,000	55.76	178	141	319	2.9	45.1
Arizona	1,113,608	1,048,897	2,162,505	51.50	1,127	1,062	2,189	1.2	57.5
Arkansas	861,750	784,029	1,645,779	52.36	874	796	1,670	1.5	21.2
California	9,520,239	8,497,046	18,017,285	52.84	9,744	8,696	18,440	2.3	28.3
Colorado	1,229,348	1,063,125	2,292,473	53.63	1,239	1,071	2,310	0.8	29.2
Connecticut	1,197,253	1,137,590	2,334,843	51.28	1,211	1,150	2,361	1.1	23.6
Delaware	229,562	225,838	455,400	50.41	233	229	462	1.4	19.4
Dist. of Col.	212,455	176,203	388,658	54.66	215	178	393	1.1	15.9
Florida	4,308,008	4,026,790	8,334,798	51.69	4,394	4,108	8,502	2.0	33.2
Georgia	2,089,120	1,992,362	4,081,482	51.19	2,152	2,053	4,205	3.0	40.9
Hawaii	334,433	277,668	612,101	54.64	344	285	629	2.8	15.0
Idaho	354,437	329,661	684,098	51.81	359	334	693	1.3	14.0
Illinois	3,636,746	3,456,625	7,093,371	51.27	3,684	3,502	7,186	1.3	8.3
Indiana	1,951,129	1,810,064	3,761,193	51.88	2,002	1,857	3,859	2.6	9.2
Iowa	920,543	963,306	1,883,849	48.87	925	968	1,893	0.5	-3.8
Kansas	823,812	827,796	1,651,608	49.88	822	826	1,648	-0.2	-3.9
Kentucky	1,197,934	1,100,507	2,298,441	52.12	1,216	1,117	2,333	1.5	17.5
Louisiana	1,388,706	1,312,084	2,700,790	51.42	1,376	1,300	2,676	-0.9	25.5
Maine	412,045	405,883	817,928	50.38	419	412	831	1.6	26.3
Maryland	1,513,338	1,435,896	2,949,234	51.31	1,536	1,457	2,993	1.5	18.6
Massachusetts	2,032,975	1,889,103	3,922,078	51.83	2,069	1,923	3,992	1.8	7.6
Michigan	3,201,939	3,130,939	6,332,878	50.56	3,228	3,156	6,384	0.8	4.7
Minnesota	1,268,532	1,187,294	2,455,826	51.65	1,275	1,193	2,468	0.5	-4.5
Mississippi	896,128	848,060	1,744,188	51.38	900	851	1,751	0.4	15.8
Missouri	1,748,395	1,681,667	3,430,062	50.97	1,766	1,698	3,464	1.0	13.1
Montana	324,108	267,114	591,222	54.82	331	273	604	2.2	10.5
Nebraska	558,536	539,049	1,097,585	50.89	562	542	1,104	0.6	7.0
Nevada	368,146	339,403	707,549	52.03	373	343	716	1.2	57.3
New Hampshire	392,678	370,201	762,879	51.47	404	380	784	2.8	35.9
New Jersey	3,110,055	2,793,945	5,904,000	52.68	3,160	2,838	5,998	1.6	40.0
New Mexico	532,526	491,559	1,024,085	52.00	548	506	1,054	2.9	35.9
New York	5,387,622	4,559,872	9,947,494	54.16	5,469	4,629	10,098	1.5	11.3
North Carolina	2,163,441	2,080,735	4,244,176	50.97	2,206	2,122	4,328	2.0	24.7
North Dakota	225,102	213,180	438,282	51.36	226	215	441	0.6	13.6
Ohio	3,798,426	3,588,112	7,386,538	51.42	3,836	3,624	7,460	1.0	-8.9
Oklahoma	1,075,290	1,062,635	2,137,925	50.30	1,092	1,080	2,172	1.6	19.7
Oregon	1,023,631	919,967	1,943,598	52.67	1,021	917	1,938	-0.3	21.4
Pennsylvania	4,045,353	3,645,916	7,691,269	52.60	4,093	3,689	7,782	1.2	10.9
Rhode Island	318,735	308,695	627,430	50.80	323	312	635	1.2	5.4
South Carolina	1,098,507	1,070,122	2,168,629	50.65	1,123	1,093	2,216	2.2	36.9
South Dakota	248,184	236,756	484,940	51.18	249	238	487	0.4	2.4
Tennessee	1,574,324	1,532,260	3,106,584	50.68	1,607	1,565	3,172	2.1	22.7
Texas	5,816,883	5,312,310	11,129,193	52.27	5,933	5,419	11,352	2.0	41.4
Utah	489,523	481,301	970,824	50.42	498	490	988	1.8	27.9
Vermont	207,705	189,368	397,073	52.31	214	195	409	3.0	31.5
Virginia	2,003,348	1,934,223	3,937,571	50.88	2,047	1,977	4,024	2.2	28.3
Washington	1,552,212	1,477,245	3,029,457	51.24	1,574	1,498	3,072	1.4	32.3
West Virginia	695,343	602,518	1,297,861	53.58	698	604	1,302	0.3	-2.0
Wisconsin	1,671,158	1,558,088	3,229,246	51.75	1,693	1,578	3,271	1.3	16.4
Wyoming	173,110	152,897	326,007	53.10	172	151	323	-0.9	8.5
Total	**82,791,964**	**76,695,036**	**159,487,000**	**51.91**	**84,084**	**77,891**	**161,975**	**1.6**	**19.0**
Percent Change From Prior Year	**1.5**	**1.9**	**1.7**	—	—	—	—	—	—

Source: Federal Highway Administration, Table SS86-5, published October 1987.

Passenger Car Efficiency Index

(Index: 1967 = 100)



Source: Energy Information Administration, Monthly Energy Review, 1987

Passenger Car Energy Indicators—1967-1987(a)

(1967 = 100)

	Passenger Cars Only						Passenger Cars and Motorcylces		
	Avg. Fuel Used per Car		Avg. Miles Traveled per Car		Avg. Miles per gal. of Fuel				
Year	Gal.	Index	Miles	Index	Miles	Index	Number Registered (000)	Gasoline Consumed (000,000 gal.)	Miles Traveled (000,000)
1987(b)	515	73.0	9,650	95.7	18.50	131.0	144,189	72,000	1,509,859
1986	525	73.4	9,625	95.7	18.32	130.2	140,693	71,350	1,312,921
1985	525	73.4	9,560	95.0	18.20	129.4	137,308	69,450	1,269,651
1984	536	75.0	9,558	95.0	17.83	126.7	134,334	73,283	1,274,074
1983	553	77.3	9,475	94.2	17.14	121.8	131,723	73,156	1,229,697
1982	566	79.2	9,428	93.7	16.65	118.3	129,500	72,848	1,191,623
1981	576	80.6	9,186	91.3	15.94	113.3	129,123	71,718	1,124,843
1980	591	82.7	9,141	90.9	15.46	109.9	127,448	73,375	1,129,887
1979	653	91.3	9,403	93.5	14.41	102.4	125,750	80,233	1,162,528
1978	701	98.0	9,835	97.8	14.04	99.8	121,717	83,775	1,194,287
1977	716	100.1	9,879	98.2	13.80	98.1	118,711	80,677	1,141,166
1976	723	101.1	9,785	97.3	13.53	96.2	115,170	78,847	1,098,147
1975	716	100.1	9,690	96.3	13.52	96.1	111,679	76,457	1,050,472
1970	760	106.3	10,272	102.1	13.52	96.1	92,095	65,784	900,992
1967	715	100.0	10,060	100.0	14.07	100.0	82,367	55,110	774,203

(a) Data for this table were revised by The Federal Highway Administration in 1986 and this automatically replaces all prior data; (b) data for 1987 were estimated by NPN, based on FHA profiles.

Mileage and Fuel Consumption Data—1986

	Personal Vehicles						
	Passenger Cars	Motor-cycles	All Personal Passenger Vehicles	Buses	All Passenger Vehicles	Trucks and Combinations	All Motor Vehicles
Fuel consumed (million gal.)	71,162	188	71,350	891	72,241	52,943	125,183
Average per vehicle (gal.)	525	36	507	1,500	511	1,318	690
Average miles per gal.	18.32	50.00	18.40	5.71	18.24	9.83	14.68
Vehicles registered (thousands)	135,431	5,262	140,693	594	141,289	40,166	181,454
Average miles traveled	9,625	1,789	9,332	8,568	9,329	12,952	10,131
Average miles traveled (millions):							
Main rural roads	—	—	291,844	1,302	239,146	156,479	449,625
Local rural roads	—	—	193,029	1,592	194,621	105,829	300,450
Urban streets	—	—	828,048	2,193	830,241	257,924	1,088,165
Total travel in 1986	**1,303,507**	**9,414**	**1,312,921**	**5,087**	**1,318,008**	**550,232**	**1,838,240**
Total travel in 1985	**1,260,565**	**9,086**	**1,269,651**	**4,876**	**1,274,527**	**499,652**	**1,774,179**

Source: Federal Highway Administration, Table VM-1, published October, 1987; all 1986 data are preliminary.

1986 Relationships by Population and Drivers

State	Resident Population (1,000)	Licensed Drivers per 1,000 Resident Population	Registered Motor Vehicles per 1,000 Resident Population	Gal. of Fuel per Vehicle	Miles per Gal.	Annual Miles per Vehicle	Vehicle Miles per Licensed Driver
Alabama	4,052	628	853	670	14.68	9,836	13,362
Alaska	534	581	679	711	15.54	11,051	12,929
Arizona	3,319	652	707	800	12.08	9,663	10,481
Arkansas	2,372	694	601	1,011	12.17	12,309	10,667
California	26,981	668	732	675	16.11	10,876	11,928
Colorado	3,267	702	846	624	15.30	9,548	11,508
Connecticut	3,189	732	803	602	15.60	9,387	10,302
Delaware	633	719	758	781	15.39	12,013	12,653
Dist. of Col.	626	621	462	632	17.97	11,360	8,457
Florida	11,675	714	887	590	14.27	8,423	10,471
Georgia	6,104	669	793	814	14.42	11,740	13,925
Hawaii	1,062	576	649	509	19.89	10,117	11,389
Idaho	1,002	683	856	626	14.50	9,076	11,374
Illinois	11,552	614	642	712	14.04	9,993	10,453
Indiana	5,504	683	758	768	12.72	9,771	10,842
Iowa	2,851	651	925	588	13.15	7,738	10,836
Kansas	2,460	671	885	666	13.67	9,109	12,001
Kentucky	3,729	616	720	795	13.70	10,894	12,727
Louisiana	4,501	600	642	833	12.41	10,334	11,056
Maine	1,173	697	744	782	14.69	11,487	12,253
Maryland	4,463	661	753	674	15.55	10,475	11,938
Massachusetts	5,832	673	659	686	15.47	10,608	10,389
Michigan	9,145	692	747	656	16.06	10,536	11,366
Minnesota	4,214	583	733	689	15.90	10,951	13,766
Mississippi	2,625	664	674	826	13.15	10,664	11,023
Missouri	5,066	677	727	850	13.27	11,286	12,120
Montana	819	722	821	761	15.12	11,504	13,086
Nebraska	1,598	687	801	711	13.86	9,862	11,507
Nevada	963	735	799	794	13.08	10,384	11,287
New Hampshire	1,027	743	1,043	486	15.19	7,387	10,373
New Jersey	7,619	775	691	731	14.38	10,508	9,375
New Mexico	1,479	692	893	722	13.82	9,977	12,861
New York	17,772	560	535	666	14.94	9,954	9,522
North Carolina	6,333	670	748	769	14.51	11,156	12,456
North Dakota	679	645	954	640	13.58	8,696	12,850
Ohio	10,752	687	759	672	14.84	9,970	11,013
Oklahoma	3,305	647	878	705	15.08	10,623	14,422
Oregon	2,698	720	839	660	15.22	10,045	11,700
Pennsylvania	11,888	647	629	697	14.89	10,383	10,094
Rhode Island	975	644	648	662	12.97	8,593	8,653
South Carolina	3,377	642	682	845	14.51	12,260	13,027
South Dakota	708	685	938	673	13.96	9,394	12,863
Tennessee	4,803	647	819	779	12.91	10,051	12,722
Texas	16,685	667	744	820	14.58	11,957	13,330
Utah	1,665	583	667	792	13.75	10,895	12,464
Vermont	541	734	773	678	16.84	11,425	12,033
Virginia	5,787	680	783	716	15.94	11,414	13,137
Washington	4,462	679	841	610	15.73	9,592	11,881
West Virginia	1,918	677	610	776	14.52	11,264	10,156
Wisconsin	4,785	675	652	744	16.55	12,317	11,900
Wyoming	507	643	868	940	12.99	12,207	16,481
Total	**241,076**	**662**	**731**	**710**	**14.68**	**10,433**	**11,526**

Source: Federal Highway Administration. Table SS86-18, published October 1987.

Gasoline	Motor Oil
Ada Resources	
Phillips (r, ur, up)	M & M Phillips "66"0
Conoco (r, ur, up)	Unique
	HDS
	HDS + 1
	Super HD II
	Trop Artic
Agway Petroleum Corp.	
Agway (r, ur, up, usp)	Agway
Power Champ (r,ur,up)	
American Petrofina, Inc.	
Fina (r, ur, up)	Fina SA Non-Detergent
	Fina Ultra Supreme
	Fina Turbo Universal
	Fina Universal
	Fina KAPPA SHD Universal
Amoco Corp.	
Amoco (r,ur,up,usp)	Amoco-Amolube
	Amoco 100
	Amoco 200
	Amoco 300
	Amoco 400
	Amoco Turbo
	Amoco LDO
	Amoco Ultimate
Anchor Gasoline Corp.	
Canal (r, ur, up)	Sun
Bayou (r, ur, up)	
Arkansas Valley Petroleum	
Phillips (r, p, sp)	
Sunoco (r, p, sp)	
Ashland Oil, Inc.	
Ashland (r, ur, up)	FourGard
SuperAmerica (r, ur, up)	Super HPO
	Turbo V
	Valvoline All-Climate
	Valvoline Racing Oil
Atlantic Refining and Marketing Corp.	
Atlantic (r, ur, usp)	Atlantic-Special
	Atlantic-Premium
	Atlantic-Super Premium
Atlantic Richfield Co.	
Arco (r, ur, up)	ARCO
	ARCO XHD
	ARCO S3 Plus
	ARCOsupreme
	ARCO Graphite
Automatic Comfort Corp.	
Citgo (r, ur)	Citgo
Texaco(r,ur)	Texaco
Sunoco(r, ur)	Sunoco
Bagwell Oil Co., Inc.	
	Unocol 76
	Chevron
	BP
	Wolf's Head
	Quaker State
Beacon Oil Co.	
Beacon (r,ur)	Beacon
Ultramo (r,ur)	Sequoia
Beneto, Inc.	
Exxon	
Bostick Brothers, Inc.	
Citgo (r, ur)	Conoco
BP America Inc.	
Sohio/Boron (ur, usp, o)	Premex
Gulf (r,ur,up)	Boron
	Nitrex
	Gulflube
	Gulf Pride
Bradley Petroleum Inc.	
	Sinclair

KEY:
Gasoline
(r) Regular
(ur) Unleaded regular
(p) Premium
(up) Unleaded premium
(sp) Super premium
(usp) Unleaded super premium
(o) Other
(d) Diesel

Gasoline	Motor Oil
Bray Terminals, Inc.	
Citgo (r,ur,p,up,sp,usp,o)	X-tra Range
Brennan Petroleum Co.	
Brenco (r,ur,p,up)	
Browning Oil Co.	
Shell (r,ur,p,up)	Shell
Rally (r,ur,up)	
Dennis K. Burke Inc.	
Citgo (r, ur, up, usp)	Fleetline
	Citgo
	Texaco
	Shell
	Castrol
	Chevron
C.S.C. Oil Co.	
CSC (r, ur, up)	
Campbell Oil Co.	
Shell (r, ur, p)	Shell
	Sun
	Union
Cannon Oil Corp.	
Cannon (ur, up, usp, d)	Cannon
Center Independent Oil Co.	
	Vavoline
	Quaker State
	Pennzoil
	Kendall
	Wolf's Head
Certified Oil Co.	
	Certified
	Quaker State
	Valvoline
	Shell
Chapman Inc.	
Texaco (r,ur,p,up, sp,usp)	URSP
	Havoline
Charter Marketing Co.	
Charter (r, ur, up)	
Chevron Corp.	
Gulf (ur, usp)	Zerolene
Chevron (ur, usp, o)	Chevron Special
Calco (r, ur, up, o)	Gulfpride Single-G
	Chevron DELO 100
	Gulflube XHD
	Chevron Custom
	Gulfpride Super Premium
	Chevron RPM DELO
	Gulf Super Duty
	Chevron DELO 300
	Chevron DELO 400
	Gulf Super Duty Plus
	Chevron Sub-Zero Fluid
Circle K Corp.	
Aero K (r, ur, p, up)	
CITGO Petroleum Corp.	
Citgo Reg. (r, ur)	Citgo Non-detergent
Premium (r, ur)	Citgo C-300 HD Detergent
Citgo Advantage Mid-grade (o)	
	Citgo All Season
	Citgard 500 Motor Oils
	Citgard 600

Gasoline	Motor Oil
Clark Oil & Refining Corp.	
Regular Leaded	Clark H.D.
Regular Unleaded	Clark Premium 5W-30
Super Unleaded	Clark Premium 10W-40
	Clark Premium 10W-30
The Coastal Corporation	
Coastal Mart (r,ur,p,up,sp,usp,o)	Uni-Lube
	Derby
Derby (r,ur,p,up,sp,usp,o)	Belcher
Coen Oil Co.	
Amoco	Amoco
Union	Union
Mobil	Mobil
Citgo	Citgo
Pennzoil	Pennzoil
	Quaker State
	Valvoline
Colonial Oil Industries, Inc.	
Golden Premium	Enmark
No Lead	
Sterling	
Como Oil Co.	
Phillips 66 (r, ur, p, up)	
Conoco Inc.	
Conoco (r, ur, up)	Par
Jet (r, ur, up)	Triangle
	Tracon
	Fleet
	Super
	HP Naling
	HP Turbo
	HP Xtreem
Consumers Oil	
	Mobil
	Texico
Crockett Oil Co.	
	Conoco
	Shell
	Havoline
	Phillips
	Sunoco
	Mobil
Crown Central Petroleum Corp.	
Crown (r, ur, up, usp, d)	Crown All-Season HD
Peoples (r, ur, up, d)	Peoples All-Season HD
	Crown Premium HD
	Peoples Premium HD
	Crown Quality
	Peoples Quality
	Crown Universal ATF
	Peoples Universal ATF
Crystal Flash Petroleum	
	Citgo
Curtis Parker Oil Co., Inc.	
Regular	Par
Regular unleaded	Tracon
Super unleaded	Super
K.E. David Ltd.	
Citgo (r, ur)	
DeBlois Oil Co.	
Texaco (r,ur)	Texaco
Sunoco (r,ur)	Sunoco
Citgo (r,ur)	Citgo
Drakes Refining Stations	
	National
	Quaker State
	Pennzoil
East Coast Oil Corp.	
East Coast (r, ur, up)	
Englefield Oil Co.	
Gulf (r, ur)	Duke
Marathon (r, ur)	Gulf
	Marathon
	Mobil

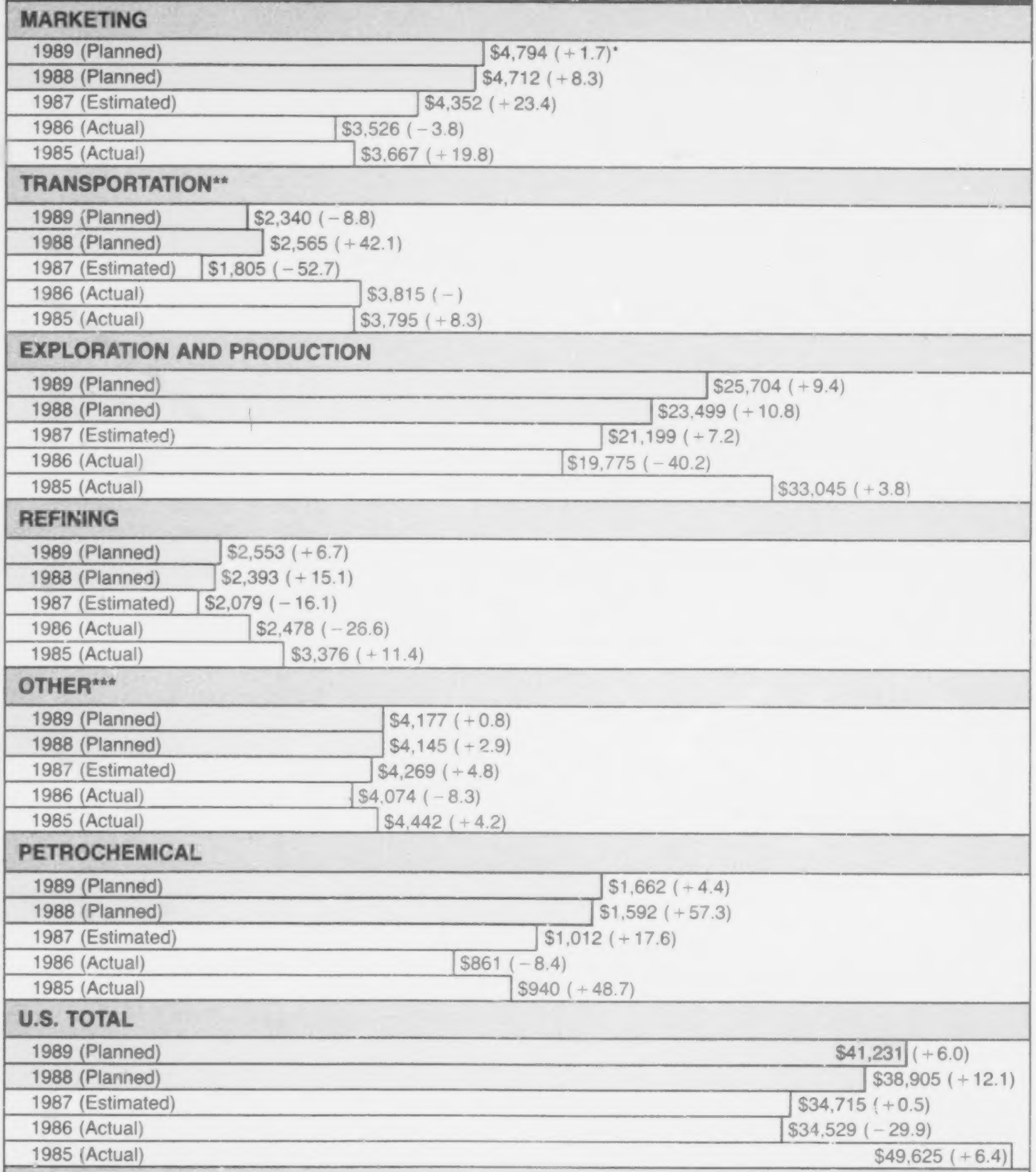
	Gasoline	Motor Oil
Exxon Company, U.S.A.	Exxon (r, ur,) Exxon Plus (up) Exxon Supreme (usp)	Superflo High Performance Superflo Single Grade Superflo Multi-Grades Superflo Supreme Performance
Farm & Home Oil Co.	Texaco (ur,up,usp, d) Amoco (ur, up, usp)	
Fas-Stop, Inc.	APCO (r, ur)	
F.O. Fletcher Oil, Inc.	Veltex (r,ur) Price-Less (r,ur)	
Fortmeyer Inc.	Pennzoil (r,ur,p,up,sp,usp,o) Ashland (r,ur,p,up,sp,usp,o)	Citgo Pennzoil
H.N. Funkhouser & Co.	Texaco (r, ur) Handy Mart (r, ur)	Quaker Pennzoil Kendall Texaco Havoline
The Gas King Corp.	Mobil Texaco Exxon	
Gasco Gasoline, Inc.	Gasco (r, ur, up)	Gasco Premium Gasco-H.D. Premium
Geldbach Petroleum Co., Inc.	Mobil	Mobil
General Oil Co., Inc.	Regular leaded Regular unleaded Premium unleaded	
Global Petroleum Corp.	Mobil Sun Conoco Global King Coastol	
Godwin Oil Co.	Texaco Phillips	
Golden Gate Petroleum Co.	Mobil (r, ur, up) Shell (r,ur, up)	Bay Area/Diablo Unocal Chevron Mobil Shell
Gresham Petroleum Co.	Amoco (r, ur, up, d)	Amoco
Gulf Oil	Gulf (r, ur, usp)	Gulflube Gulflube HD Gulflube XHD Super Duty Gulfpride Super Premium
Gull Industries Inc.	Gull (r, ur, up)	
Highway Oil, Inc.	Regular unleaded Premium unleaded Diesel	Workingman's Friend
Angus I. Hines Inc.	Shell (r, ur, up,d) Texaco (r, ur, up, d) Sentry (r, ur, up, d) Citgo	Sentry Texaco Shell
Hop-In Food Stores	Hop-In w/ethanol (r, ur, up)	Empire Havoline Quaker State Pennzoil
Horn Distributing Co., Inc.	Gulf	
Hull Oil Co.	Chevron (r,ur,p,up,sp,usp,o) Hull (r,ur,p,up,sp,usp,o)	Chevron
Hunt Refining Co.	Parade (r, ur, up)	
J. & L. Inc.		J&L Special J&L Certified HD J&L HD10W30, 10W40
Joe Bob's Food Stores, Inc.	Crystal (r,ur,up,usp)	Saxon N.D. Saxon H.D. Saxon 10W30, 10W40
Kellam Energy, Inc.		Texaco Quaker State Arco
Kellett Oil Co.	Texaco (r,ur,p,up,sp,usp) Phillips 66 (r,ur,p,up,sp,usp,o) Sinclair (r,ur,p,up,sp,usp)	GRC Texaco
Kelley Williamson Co.	Mobil (r) Citgo (r)	Citgo Mobil Phillips
Kerr-McGee Refining Corp.	KM (r, ur, up, usp, o)	Valu Lube Heavy Duty Blue Max All-Fleet Blue Velvet Fuel Efficient
Kickapoo Oil Co., Inc.	Kickapoo (r,ur, p, up, d)	Kickapoo Pennzoil
Kimber Petroleum Corp.	Amoco Citgo Mobil	Amoco Citgo Mobil
Kingston Oil Supply Corp.	Mobil Getty	Mobil
Kirschner Bros. Oil Co.	Chevron Getty	
Lake Shore Petrocorp	Phillips 66 (r, ur) Marathon (r, ur)	Phillips Trop Artic Phillips All Season
H. C. Lewis Oil Co.	Exxon (r, ur, usp)	Exxon
The Lyden Company	Amoco (r,ur,usp,d) Citgo (r,ur,up)	Amoco Quaker State Valvoline
Marathon Petroleum Co.	Mile Maker (r) Super M (p)	
Martin Oil Marketing, Ltd.	Martin (r, ur, usp, o, d)	Martin Oil SAE 30 Martin All Season 5W30 Martin All Season 10W30 Martin All Season 10W40
McLeieer Oil, Inc.		Kendall Unocal 76 Marathon Sunoco Shell Pennzoil
Merchants Oil Inc.	Dino (r, ur, p, up, sp, usp)	Sinclair Trop Arctic Pennzoil Quaker State Shell
Merit Oil Corp.	Merit (r, ur, up)	Merit Special Merit 10W30 Merit 10W40 Merit ATF
M.G.S. Oil, Petroleum & General Trading Corp.	Marathon (r,ur, up)	Marathon 20W50 Marathon 15W40 Marathon W20 & 30 Arco W20 & 30
Mid-Continent Systems, Inc.	Phillips (r,ur,p,up,sp,usp,o) Delo (r,ur,p,up,sp,usp,o)	Shell Rotella Quaker State Texaco Havoline
Midwest Petroleum Co.	Sunoco Shell	All Temp Pennzoil Sun Shell Chevron
Mid-Missouri Oil Co.		Shell
Miller Enterprises, Inc.	Unocal (r,ur,p,up,sp,usp,o) Phillips (r,ur,p,up,sp,usp,o)	Unocal Handy Way
Missouri Terminal Oil Co.	Fina (r,ur,p,up,sp,usp,o,d) Midco (r,ur,p,up,sp,usp,o,d)	Fina
Mobil Oil Corp.	Mobil (r,ur,usp,o)	Mobil Regular Mobil Heavy Duty Mobil Super Mobil Delvac Mobil 1
Munro Petroleum & Terminal Corp.	Shell M.P.	Shell Mobil Royal
Murphy Oil USA, Inc.	Spur (r, ur, p)	
Musket Corp.	Love's (r, ur, usp, d)	Double Eagle Recond. 30W Sup-R-Lub 30W Sup-R-Lub 20W Pennzoil 20W Pennzoil 30W Quaker State Red 30W
National Oil & Gas Inc.	Phillips (r,ur,p,up,sp,usp) Marathon (r,ur,p,up,sp,usp)	Shell Amoco Pennzoil Marathon Phillips Mobil Hydrotex
Neal, Inc.	Fina (r, ur, up)	

Gasoline	Motor Oil
Nella Oil Co.	
1-Stop (r, ur, p, up, sp, usp, o)	
Exxon (r, ur, p, up, sp, usp, o)	
Newell Oil Co. Inc.	
Gulf (r,ur,up)	Gulf Pride
	Delo RPM
Noco Energy Corp.	
Noco (r,ur,p,up,sp,usp)	Exxon
	Mobil
Olympian Oil Co.	
Olympic (r,ur)	Olympic
Parker Oil Co., Inc.	
Union 76	Union 76
Exxon	Exxon
Citgo	Citgo
Petrol	Texaco
Peavey Oil Co.	
Texaco (r, ur, up, d)	Texaco
	Chevron
	Pennzoil
	Valvoline
Pennzoil	
Pennziol (r, ur, up, sp)	
Petroleum Marketers, Inc.	
Save Cash (r)	
Petrotex Marketing Inc.	
Shell (r, ur, up)	Liberty
	Approved
	Fina
	Quaker State
	Pennzoil
	Shell
	Castrol
	Texaco
	Chevron
Pettway Oil Co.	
Amoco (ur, up, usp)	Amolube
	Amoco 20030
	Amoco 30030
	Amoco Ultimate
Phillips 66 Co.	
Phillips (r, ur, p, up, sp, usp)	Unique
	M M Motor Oil
	Super HD II
	Trop Artic
	HDS
Pilot Oil Corp.	
Pilot (r, ur, up)	Pilot
Pride of Texas Distributing Co. Inc.	
Texaco	
Diamond Shamrock	
Pride Oil Co., Inc. (Miss.)	
Pride (r, ur, p, up, sp)	Kendall
	Pennzoil
	Quaker State
	Havoline
Pride Oil Co. Inc. (Tenn.)	
Pride (r, ur, up)	Kelso
	Havoline
	Kendall
Private Brand Services, Inc.	
	Pennzoil
	Quaker State
Publix Oil Co., Inc.	
Publix (r, ur, p, up, sp, usp, o)	
Quaker State Oil Refining Corp.	
Quaker State (r, ur, up)	Quaker State HD
	Quaker State HDX
	Universal Fleet
	Quaker State Super Blend
	Quaker State DeLuxe
	Quaker State Sterling
Quiktrip Corp.	
Redline (r, p, sp)	
Red Hed Oil Co., Inc.	
	Cruise Master
	Valvoline
	Texaco
	Phillips Trop Artic
	Pennzoil
	Quaker State
Reinauer Petroleum Inc.	
Citgo (r, ur, p, up, usp, o)	
Reinhardt Oil Corp.	
	Sunoco
	Citgo
Remote Services, Inc.	
Convenient (r, up, usp, d)	
River Oil Co.	
Phillips 66	Phillips 66
Robinson Oil Co., Inc.	
Rotten Robbie (r, ur, usp, d)	
Ross Resources, Inc.	
Apco (r, ur)	
Royster Oil Co., Inc.	
Gulf (r,ur, sp)	Saphire
	Gulflube
	Pride Single G
	Super Premium
	Super Duty
Russell Petroleum Corp.	
Regular leaded	Quaker Stae
Regular unleaded	Texaco
Premium unleaded	
Sahara Oil Co., Inc.	
Texaco (r, up, usp, d)	
Santee Oil Co., Inc.	
Shell (r,ur, usp)	Shell
Marathon (r, ur, usp)	
SCASCO	
Texaco (r,ur,p,up,sp,usp,o)	Texaco
Hess (r,ur,p,up,sp, sp,o)	
Sears Oil Co. Inc.	
Sears (r, ur, p, up, sp, usp)	Sears Premium
	Sears Supreme
Self-Service Oil Co.	
Vista (r, ur, p, up, usp)	
Shay Oil Co., Inc.	
Exxon (r, ur, p, up, sp, usp)	Exxon
Shelby Petroleum Corp.	
Peer (r, ur, p, up, sp, usp)	Bonus Regular
Bonus (r, ur, p, up, sp, usp)	Sail Premium
	Peer Premium
	Peer Heavy Duty
	Peer Multi-Grade
Shell Oil Co.	
Shell (r, ur, up, usp)	Shell
	X-100
	Fire & Ice 2000
	Super 2000
Shotmeyer Bros. Petroleum Corp.	
Mobil	Mobil
R.L. Smeltz Oil Co., Inc.	
Amoco	Amoco
Pennzoil	Pennzoil
SOS Oil Corp	
Gulf (ur, up)	Beaver
	SOS
Southern Counties Oil Co.	
Arco (r,ur, p, up)	Southern Counties Oil
Mobil (r, ur, p, up)	Chevron
	Unocal
	Mobil
	Texaco
	Shell
	Arco
Southern Oil Co., Inc.	
	Phillips 66
	Quaker State
	Pennzoil
Southern States Co-op	
Southern States	Co-op
The Spencer Co., Inc.	
Amoco (ur, r, o)	LDO
Citgo (ur, r, o)	Amolube
	Ultimate
	Citgo All Season
Steuart Petroleum Co.	
Steuart (r, ur, p, up)	Cam2
	Pennzoil
Stevens Oil Co.	
Chevron (r, p,up,sp,usp,d)	Zerolene
	Special
	Custom
	Delo 400
Sumrall Oil Services, Inc.	
SOS	
Sun Refining and Marketing Co.	
Sunoco (r, ur, up, usp, o)	Diamond
DX (r, ur, p, up)	Sun Lube
	Dynalube
	Special
	MPG Plus
Sunshine Jr. Stores, Inc.	
Jr. (r,ur)	Rallye
Citgo (r,ur)	Mobil
	Citgo
	Pennzoil
	Texaco-Havoline
	Quaker State
	Castrol
TCR, Inc.	
TCR (r, ur, p)	TCR
Texaco Inc.	
Texaco (r,ur,up,sp,o)	URSA Oil Extra Duty
	URSA Oil Super Plus
	URSA Oil Premium
	Havoline Premium
	Havoline Supreme
	Havoline High Performance
	Havoline Superior
Thornhill Oil Co.	
Amoco (r,ur, up)	Amolube
	LDO
	Ultimate
Time Saver Stores Inc.	
	Golden State
	Quaker State
	Pennzoil
Tooley Oil Co.	
Tooley's (r, ur, sp, usp, d)	
Shell (r, ur, sp, usp, d)	
Total Petroleum, Inc.	
Total (r, ur)	Total Big Value
Apco (r, ur)	Total Golden Supreme
Vickers (ur)	Total All Season
Transit Oil Co.	
Transit (r, p, sp)	Transit
Travelers Petroleum, Inc.	
Texaco (r,ur,up,sp)	
Self Way (r,ur,p,up)	

Marketing Investments at Record Highs

The oil marketing industry may not be out of the woods yet in terms of profits and prices, but there is definite optimism in the record capital investments in marketing facilities for 1988 and 1989, as reported by Data Resources, Inc. subsidiary of McGraw-Hill, Inc. of New York. Below is their latest survey data, released in May 1988.

Marketing Investments Move Closer to $5-Billion Mark



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* Figures in parentheses indicate percentage change from previous year.

** Does not include gas pipelines.

*** Includes coal mining by oil companies.

X Insufficient replies to make valid projections.

Source: Data Research Inc./McGraw-Hill Inc. Thirty-sixth survey of Preliminary Plans for New Plants and Equipment 1985-1989, data collected in September-October and published in late November, 1987.

Capital Spending in the Oil Industry: A 20-Year Overview at Home and Abroad

Embarrassedly, Chase Manhattan Bank says it still has not completed its capital spending surveys for 1985 and 1986. In March, a spokesman said the bank "may be able to get the reports out this summer but even this may be subject to further delays." The bank has been publishing the capital spending reports for about 50 years.

(Millions of Dollars)

	1984		1983		1982		1981		1980	
	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign
Marketing	$ 1,900	$ 3,275	$ 1,375	$ 3,330	$ 1,400	$ 3,700	$ 1,425	$ 3,775*	$ 1,300	$ 3,750
Refining (a)	4,200	15,700	5,100	17,075	7,550*	19,525*	7,250	18,325	5,650	16,125
Transportation	975	5,925	1,000	7,725	1,300	7,650	1,725	10,300	2,150	7,725
Production	38,050	34,650	37,275	36,575	52,275*	43,400*	51,700	41,675	33,100	33,775
Other	725	1,375	850	1,500	1,025	1,600	900	1,525	700	1,250
Total	**45,850**	**60,925**	**45,600**	**66,175**	**63,550***	**78,875***	**63,600**	**75,600**	**42,900**	**62,625**

	1979		1978		1977		1976		1975	
Marketing	975	2,775	950	2,290	775	1,895	625	1,555	650	1,550
Refining (a)	4,625	14,385	4,050	13,275	3,770	10,965	3,775	7,635	3,600	8,270
Transportation	1,450	6,575	1,350	7,380	2,300	8,060	3,900*	12,350*	3,725	11,510
Production	24,600	24,465	17,650	20,055	15,180	17,280	13,460	12,315	9,380	9,875
Other	550	1,225	475	980	445	980	325	785	370	735
Total	**32,200**	**49,425**	**24,475**	**43,900**	**22,400**	**39,180**	**22,085**	**34,640**	**17,725**	**31,900**

	1974		1973		1972		1971		1970	
Marketing	650	1,565	850	1,630	1,100	1,725	1,350	2,030	1,450*	1,770
Refinery (a)	2,600	7,115	1,475	4,565	1,350	4,995	1,550	4,740	1,625	3,900
Transportation	1,660	9,760	550	7,230	425	4,580	675	3,435	550	2,915
Production	11,450	8,085	7,440	5,485	5,915	4,190	3,385	3,830	4,335	2,895
Other	325	550	325	445	260	450	290	515	265	420
Total	**16,625**	**27,075**	**10,640**	**19,355**	**9,050**	**15,900**	**7,250**	**14,550**	**8,225**	**11,900**

	1969		1968		1967		1966		1965	
Marketing	1,250	1,555	1,150	1,515	1,250	1,455	1,100	1,310	1,000	1,430
Refinery (a)	1,525	2,995	1,450	2,980	1,600	2,550	1,575	2,435	1,125	1,665
Transportation	400	2,600	475	2,280	400	1,740	300	1,755	265	1,510
Production	4,750	2,790	4,925	2,535	4,025	1,975	3,770	1,870	3,760	2,025
Other	250	260	350	240	375	205	380	180	225	170
Total	**8,175**	**10,200**	**8,350**	**9,550**	**7,650**	**7,925**	**7,125**	**7,550**	**6,375**	**6,800**

(a) Includes chemicals and petrochemicals.

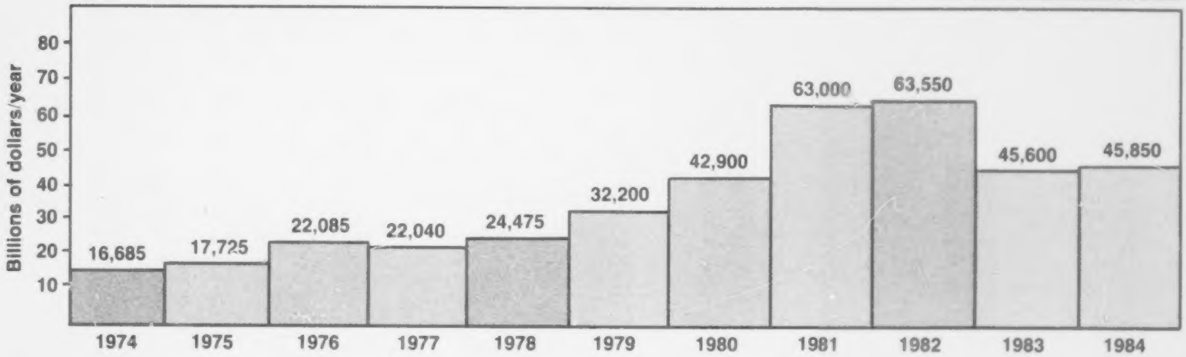
*Peak years are indicated with asterisks.

Source: Chasc Manhattan Bank, Capital Investments in The World Petroleum Industry

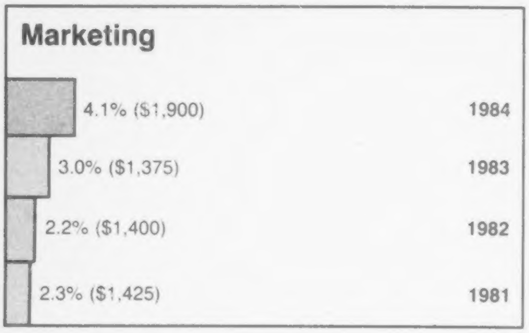
Capital Spending by U.S. Oil Companies

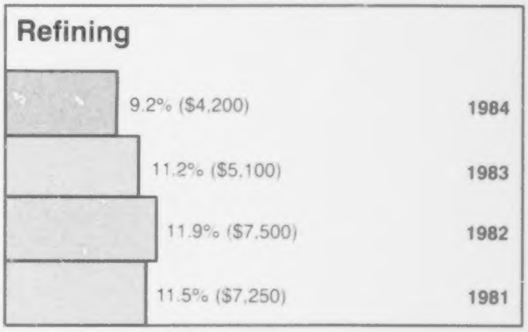
(millions of dollars)

See note on preceding page about the availability of data covering the years 1985 and 1986.



Spending by Divisions and Percentages


Marketing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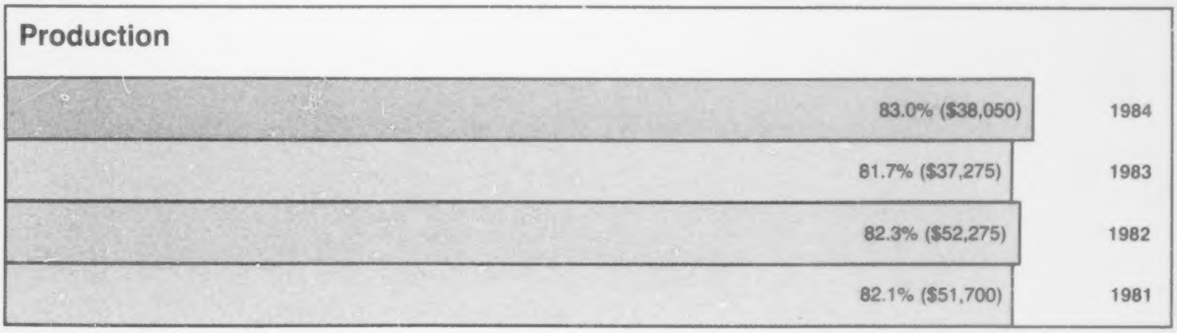
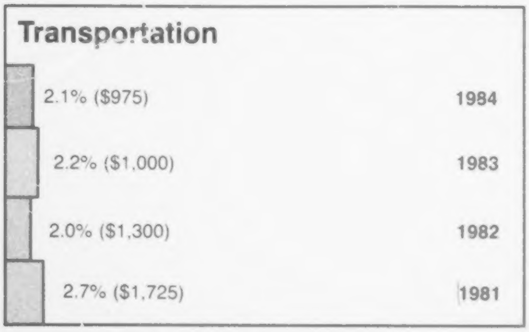
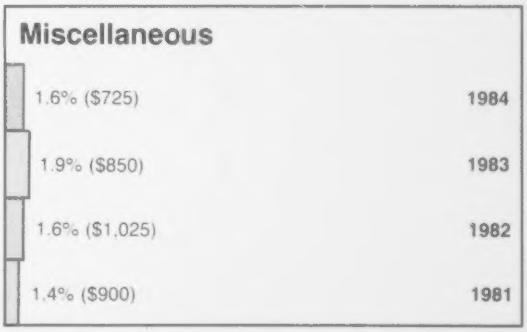
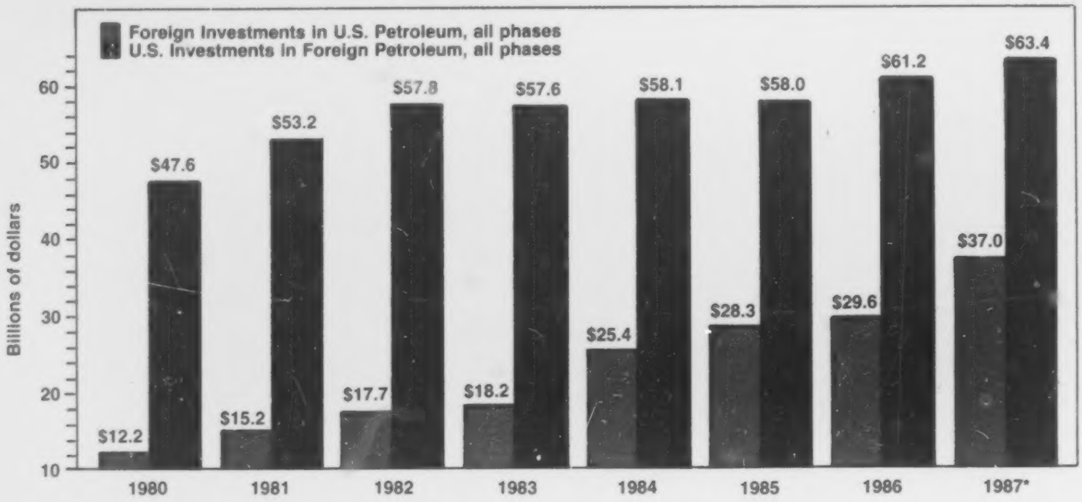

Production


Transportation


Miscellaneous

Source: Chase Manhattan Bank, New York, NY

Foreign and U.S. Investments in Petroleum



*Estimated By *NPN*

Source: Profiles of Foreign Direct Investment in U.S. Energy 1986, Energy Information Administration.

If current patterns continue into the mid-90s, foreign investors could wind up owning enough parts and pieces of the U.S. oil industry to have substantial influence on domestic supplies, prices and marketing facilities.

The amount invested so far is only a drop in the bucket in relation to the total value of the domestic petroleum industry, maybe only 6% to 7%. Nevertheless, it is there and growing by the billions of dollars. That little drop could easily become a bucketful or two by 1995 or thereabouts.

Consider, for example, some current statistics:

- Foreign investors now own or market through one out of every five service stations in the U.S.
- They sell about one out of every seven gallons of gasoline bought by American motorists.
- They control about one-fifth of the U.S. refinery capacity and one out of every seven refineries.
- They had a hand in not quite two out of every 10 b/d of domestic crude oil and natural gas liquids produced in the U.S. in 1986.

Foreign Direct Investments in the U.S.

(billions of dollars)

Year	FDI in U.S. Petroleum	Total FDI in U.S.	% Petroleum of Total
1987*	$37.0	$230.0	16.1%
1986	29.6	209.3	14.1
1985	28.3	184.6	15.3
1984	25.4	164.6	15.4
1983	18.2	137.1	13.3
1982	17.7	124.7	14.2
1981	15.2	108.7	14.0
1980	12.2	83.0	14.7

(*) Projected by NPN.

U.S. Direct Investments in Foreign Petroleum

Year	U.S. Direct Investment in Foreign Oil	Total U.S. Investment Abroad	% Petroleum of Total
1987*	$63.4	$267.3	23.7%
1986	61.2	259.9	23.5
1985	58.0	229.7	25.3
1984	58.1	211.5	27.5
1983	57.6	207.2	27.8
1982	57.8	207.8	27.8
1981	53.2	228.3	23.3
1980	47.6	215.4	22.1

(*) Projected by NPN.

The FDIs in petroleum were 29.6% of the total FDIs in the U.S. in 1986 and, remembering that BP-London alone poured more than $7-billion into its acquisition of Standard Oil Co. last year, there's no question that the FDIs topped $36-billion in 1987.

The fortunate part of these FDIs is that the bulk ($26.1-billion) are European—primarily The Netherlands and the United Kingdom. OPEC investments are still relatively small, being counted in the millions of dollars, not billions. Don't forget, however, Kuwait bought into a Texas oil company last year while Venezuela picked up a 50% interest in Citgo Petroleum and Italy's AGIP, not a member of OPEC, got 50% of an East Coast independent. Meanwhile, OPEC members are avidly interested in buying into U.S. oil marketers and some, notably Texaco, are eagerly courting them.

FDIs in Marketing, Refining and Production

	1986	1985	1984
Branded retail outlets			
FDI companies	26,223	27,421	25,860
U.S. total	120,150	124,600	132,080
% FDI of U.S. total	21.8%	22.0%	19.6%
Gasoline supplied (in thousands of b/d)			
Total FDIs	1,263	1,285	1,066
U.S. total	7,034	6,831	6,693
% FDI of U.S. total	18.0%	18.8%	15.9%
Refineries			
Total FDIs	30	28	28
U.S. total	219	216	223
% FDI of U.S. total	13.7%	13.0%	12.6%
Crude distillation capacity (in thousands of b/d)			
Total FDIs	2,979	2,601	2,293
U.S. total	15,566	15,459	15,659
% FDI of U.S. total	19.1%	16.8%	14.6%
Crude oil and NGL production (in thousands of b/d)			
Total FDIs	1,507	1,452	1,365
U.S. total	10,289	10,636	10,554
% FDI of U.S. total	14.6%	13.7%	12.9%
Crude oil and NGL proved reserves (millions of bbl.)			
Total FDIs	5,569	5,847	5,800
U.S. total	35,054	36,360	36,089
% FDI of U.S. total	15.9%	16.1%	16.1%

How Oil Companies Handle

Company	TOTAL BRANDED RETAIL OUTLETS	NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED	BRANDED SERVICE STATIONS			
			Supplied Directly	Supplied Through Jobbers and Commissioned Agents	Lessee/ Dealer-operated	Salary-operated
Ada Resources	125	1	80	45	76	4
Agway Petroleum Corp.	186	9	4	—	—	4
American Petrofina, Inc.	4,117(A)	24	175	3,119	26	136
American Refining Group, Inc.	5(B)	1	5	—	3	2
Amoco Corp.	11,291	30	3,919	7,372	3,715	204
Anchor Gasoline Corp.	61(D)	1	61	—	61	—
Arkansas Valley Petroleum	42(E)	2	3	—	3	—
Ashland Oil, Inc.	2,103	18	0	494	494	0
Atlantic Refining & Marketing Corp.	940(F)	6	620	320	716	218
Atlantic Richfield Co.	1,738(G)	5	1,254	484	—	—
Automatic Comfort Corp.	44	1	44	—	16	28
Aztex Enterprises	35	1	35	—	—	35
BP America, Inc.	7,716(I)	29	2,584	5,050	1,155	1,032
Bagwell Oil Co., Inc.	33	2	25	—	—	—
Beacon Oil Company	300	6	—	16	16	—
Beneto Inc.	14(H)	1	5	0	9	5
Best Oil Co.	19	1	15	4	2	17
Bostick Brothers, Inc.	6	1	5	—	—	—
Bradley Petroleum Inc.	33(J)	3	0	0	0	0
Bray Terminals, Inc.	73	1	—	73	73	—
Brennan Petroleum Co.	1	1	1	—	—	1
Browning Oil Co.	28	1	28	—	28	—
Dennis K. Burke, Inc.	1	1	—	—	—	—
C.S.C. Oil Co.	22	2	15	—	—	15
Campbell Oil Co.	90	1	20	—	20	—
Cannon Oil Corp.	18	3	0	0	0	0
Center Independent Oil Co.	12	1	12	—	—	12
Certified Oil Co.	165	3	165	—	11	154
Champlain Oil Co.	101	4	29	—	27	2
Chapman Inc.	65(K)	3	65	—	51	14
Charter Marketing Co.	550	13	550	—	50	470
Chevron Corp.	12,928	34	4,499	6,523	10,385	637
W.R. Childress Oil Co. Inc.	50	1	—	7	7	—
Cibro Gasoline Corp	—	—	—	—	—	—
Circle K Corp.	259	12	—	—	—	—
CITGO Petroleum Corp.	7,458	39	0	1,960	0	0
Clark Oil & Refining Corp.	985	12	985	0	23	957
The Coastal Corp.	880	22	769	111	261	611
Coen Oil Co.	150	1	100	—	100	—
Colonial Oil Industries, Inc.	62	3	62	—	—	29
Como Oil Co.	30	2	—	—	—	—
Conna Corp.	271	9	—	—	—	—
Conoco Inc.	5,918	39	484	5,075	0	484
Consumers Gasoline Stations	30	3	30	—	—	30
Consumers Oil	46	2	46	—	26	[illegible]
Cook & Cooley, Inc.	60	1	48	12	—	—
Crockett Oil Company	20	4	20	—	17	3
Crown Central Petroleum Corp.	720(L)	8	660	30	100	620
Crystal Flash Petroleum	20	1	20	—	—	20
Crystal Petroleum	20	1	20	—	—	20
Curtis Parker Oil Co. Inc.	22	1	16	6	21	1
K.E. David Ltd.	5	1	5	—	3	2
DeBlois Oil Co.	40(M)	2	40	0	10	30
Delta Group, USA Inc.	36(N)	2	—	—	—	—
Diamond Industries	—	—	—	—	—	—
Diamond Shamrock Refining & Marketing Co.	1,976	9	523	1,448	0	523
Dickey Inc.	5	1	5	—	1	—
Drakes Refinery Stations	13	1	0	13	—	13
East Coast Corp.	37	1	37	—	—	37
Emro Marketing Co.	1,339	18	1,339	—	—	1,339
Engelfield Oil Co.	245	2	245	—	195	50
Exxon Co., U.S.A	13,451	37	4,457	8,994	3,027	579
Farm & Home Oil Co.	20	2	—	20	16	3
Fas-Stop, Inc.	5	1	5	—	—	5
Fleischli Oil Co.	5	1	2	—	2	—
F.O. Fletcher Oil, Inc.	19(O)	3	18	—	16	2
Flying J Inc.	90	12	90	0	—	90
Fortmeyer Inc.	2	1	2	—	—	—
Foster Oil Co.	22	1	11	0	2	11
Franko Oil Co.	50	2	50	—	10	40

† Includes District of Columbia
(A) Includes Fina Oil and Chemical Co., FinaServe, Inc.
(B) Includes 'Round Town Gasoline Stores
(C) Figures are NPN estimates based on company-supplied percentage ranges on direct-supplied stations only.
(D) Includes Canal Refining Co.

Product Distribution

				BRANDED JOBBERS COMMISSIONED AGENTS			
					Number selling.....		
Commission-operated	Full-service-only	Self-service only	Self-service/ Full-service	Total	Gasoline only	Fuel Oil only	Gasoline/ Fuel Oil
—	34	32	59	16	—	—	16
—	1	3	—	19	3	—	16
0	329	1,977	988	466	0	0	466
—	—	3	2	0	—	—	—
—	371(C)	929(C)	2,415(C)	1,178	—	—	—
—	54	2	5	10	10	—	—
—	—	—	3	0	—	—	—
0	418	11	65	178	0	0	178
6	332	543	65	63	9	—	54
—	—	—	—	38	38	0	0
—	—	28	16	0	—	—	—
—	—	35	—	0	—	—	—
352	79	408	897	534	0	60	474
—	—	—	—	—	—	—	—
—	1	7	8	18	18	—	—
—	—	5	—	0	—	—	—
—	2	17	—	—	—	—	—
5	1	—	—	0	—	—	—
0	0	0	0	0	—	—	—
—	10	25	39	73	—	—	—
—	—	1	—	—	—	—	—
—	—	2	26	—	—	—	—
—	—	—	—	—	—	—	—
—	—	12	3	—	—	—	—
—	—	—	20	0	—	—	—
0	0	0	0	—	—	—	—
—	7	5	—	—	—	—	—
—	—	5	160	0	—	—	—
0	28	0	1	2	—	—	2
0	4	24	37	—	—	—	—
30	10	540	—	0	—	—	—
—	3,315	3,287	4,420	1,024	0	52	694
—	—	—	7	10	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	350	—	—	2
0	10	945	30	0	—	—	—
8	6	866	8	269	6	0	263
—	10	0	90	—	—	—	—
33	4	4	54	0	—	—	—
0	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
0	1,152	3,494	913	750	—	—	—
—	4	25	1	0	—	—	—
14	46	—	—	—	—	—	—
—	—	48	12	—	—	—	—
—	2	13	5	20	12	—	8
0	—	—	—	0	—	—	—
—	—	18	2	2	—	—	2
—	—	17	3	3	—	—	—
0	7	9	6	3	—	—	3
1	4	1	—	—	—	—	—
0	22	18	0	0	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	185	1,776	10	157	157	—	—
—	1	3	1	1	1	—	—
—	2	10	1	—	—	—	—
—	—	35	2	0	—	—	—
—	2	1,336	1	—	—	—	—
—	48	66	131	5	0	0	5
0	—	—	—	738	38	3	707
1	17	1	2	—	—	—	—
—	—	4	1	0	—	—	—
—	—	2	—	3	3	—	—
—	12	6	—	0	—	—	—
—	—	85	5	10	10	—	—
—	2	0	0	—	—	—	—
0	11	11	0	1	—	—	1
—	41	9	—	0	—	—	—

(E) Includes Arkansas Valley Distributing
(F) Includes Petroleum Marketing Services Corp.
(G) Includes Prestige Stations, Inc.
(H) Includes Darpetro, Inc.
(I) Includes Boron Oil Co., BP Oil Co., Gulf Products Division

BULK PLANTS				TERMINALS				
	Company-operated				Company-operated			
Total	Salary-operated	Commission-operated	Jobber-operated Bulk Plants	Total	Salary-operated	Commission-operated	Jobber operated Terminals	Company
3	2	1	15	—	—	—	—	Ada Resources
112	112	—	16	10	10	0	0	Agway Petroleum Corp.
0	0	0	373	9	9	0	1	American Petrofina, Inc.
0	—	—	—	1	1	—	—	American Refining Group, Inc.
0	0	0	—	84	84	0	—	Amoco Corp.
10	0	10	—	2	—	—	—	Anchor Gasoline Corp.
0	—	—	—	—	—	—	—	Arkansas Valley Petroleum
128	5	123	—	25	25	0	0	Ashland Oil, Inc.
0	—	—	26	18	18	0	0	Atlantic Refining & Marketing Corp.
0	0	0	—	31	—	—	—	Atlantic Richfield Co.
0	—	—	0	1	1	0	0	Automatic Comfort Corp.
1	1	—	0	0	—	—	0	Aztex Enterprises
88	0	88	0	57	40	17	0	BP America, Inc.
2	2	—	—	1	1	—	—	Bagwell Oil Co., Inc.
26	0	0	26	2	1	1	0	Beacon Oil Company
—	—	—	—	4	4	—	—	Beneto Inc.
—	—	—	—	—	—	—	—	Best Oil Co.
2	2	0	0	1	1	0	0	Bostick Brothers, Inc.
0	—	—	—	0	—	—	—	Bradley Petroleum Inc.
—	—	—	10	3	3	—	—	Bray Terminals, Inc.
—	—	—	—	—	—	—	—	Brennan Petroleum Co.
2	2	0	—	—	—	—	—	Browning Oil Co.
—	—	—	—	—	—	—	—	Dennis K. Burke, Inc.
—	—	—	—	—	—	—	—	C.S.C. Oil Co.
3	3	—	—	0	—	—	—	Campbell Oil Co.
1	1	—	—	—	—	—	—	Cannon Oil Corp.
1	1	—	—	—	—	—	—	Center Independent Oil Co.
12	12	—	—	2	2	—	—	Certified Oil Co.
0	—	—	—	0	—	—	—	Champlain Oil Co.
—	—	—	—	—	—	—	—	Chapman Inc.
0	—	—	—	0	—	—	—	Charter Marketing Co.
935	83	3	849	107	79	0	4	Chevron Corp.
3	3	—	—	—	—	—	—	W.R. Childress Oil Co. Inc.
1	1	—	—	1	1	—	—	Cibro Gasoline Corp.
0	—	—	—	0	—	—	0	Circle K Corp.
0	—	—	—	42	42	—	0	CITGO Petroleum Corp.
—	—	—	—	—	—	—	—	Clark Oil & Refining Corp.
10	2	8	0	237	49	188	0	The Coastal Corp.
1	—	—	—	0	—	—	—	Coen Oil Co.
1	1	0	110	2	2	0	4	Colonial Oil Industries, Inc.
—	—	—	—	—	—	—	—	Como Oil Co.
0	—	—	—	0	—	—	—	Conna Corp.
153	0	0	153	50	0	0	0	Conoco Inc.
0	—	—	—	0	—	—	—	Consumers Gasoline Stations
1	—	—	1	—	—	—	—	Consumers Oil
—	—	—	—	—	—	—	—	Cook & Cooley, Inc.
—	—	—	—	—	—	—	—	Crockett Oil Company
5	3	2	—	—	—	—	—	Crystal Flash Petroleum
0	—	—	0	11	11	0	0	Crystal Petroleum Corp.
5	—	—	—	—	—	—	—	Crystal Petroleum
3	1	2	1	0	—	—	—	Curtis Parker Oil Co. Inc.
3	3	—	—	0	—	—	—	K.E. David Ltd.
3	3	0	0	1	1	0	0	DeBlois Oil Co.
1	1	—	—	—	—	—	—	Delta Group, USA Inc.
4	4	—	—	2	2	—	—	Diamond Industries
2	2	—	—	12	12	—	—	Diamond Shamrock Refining & Marketing CO.
—	—	—	—	—	—	—	—	Dickey Inc.
—	—	—	—	—	—	—	—	Drakes Refinery Stations
0	—	—	—	0	—	—	—	East Coast Corp.
1	—	—	—	0	—	—	—	Emro Marketing Co.
10	9	1	—	—	—	—	—	Engelfield Oil Co.
0	—	—	—	63	63	0	—	Exxon Co., U.S.A.
—	—	—	—	—	—	—	—	Farm & Home Oil Co.
0	—	—	—	0	—	—	—	Fas-Stop, Inc.
6	—	—	6	0	—	—	—	Fleischli Oil Co.
0	—	—	—	0	—	—	—	F.O. Fletcher Oil, Inc.
7	0	0	7	6	6	6	0	Flying J Inc
1	—	—	1	—	—	—	0	Fortmeyer Inc.
3	3	0	0	0	—	—	—	Foster Oil Co.
0	—	—	—	0	—	—	—	Franko Oil Co.

(J) Includes Sav-O-Mat Inc.
(K) Includes J&W Corp., West Ark Oil Co.
(L) Includes Fast Fare, Zippy Mart
(M) Includes Beacon Oil Co.
(N) Includes Imperial Oil Co., Royal, Inc., One Stop Food Stores

How Oil Companies Handle

Company	TOTAL BRANDED RETAIL OUTLETS	NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED	BRANDED SERVICE STATIONS			
			Supplied Directly	Supplied Through Jobbers and Commissioned Agents	Lessee/ Dealer-operated	Salary-operated
Fuelman, Inc.	41	3	24	18	16	25
H.N. Funkhouser & Co.	12	1	4	—	1	3
The Gas King Corp.	11	5	0	11	0	11
Gasco Gasoline, Inc.	59	1	—	0	0	—
Geldbach Petroleum Co., Inc.	4	1	2	—	2	—
General Oil Co.	37	1	—	0	0	—
Getty Petroleum Corp.	2,298(P)	11	1,728	570	1,575	76
Giant Industries, Inc.	13	3	—	—	—	—
Global Petroleum Corp.	119	4	119	—	99	20
Godwin Oil Co.	19	1	0	19	—	19
Golden Gate Petroleum Co.	11(Q)	1	—	3	2	1
Gresham Petroleum Co.	15	1	—	—	—	—
Gulf Oil	4,463	13	1,954	2,509	427	864
Gull Industries Inc.	100	2	100	—	0	5
Harris Enterprises Inc.	22	2	22	—	20	2
Highway Oil, Inc.	212(R)	22	212	—	—	180
Angus I. Hines, Inc.	50	3	—	0	—	—
Hop-In Food Stores	26	2	—	—	—	—
Hough Fuel	56	2	55	—	55	—
Huck's Convenience Stores	100	4	90	10	—	100
Hudson Farris Corp.	11	2	11	0	0	11
Hull Oil Co.	31	2	—	—	—	—
Hunt Refining Co.	150	3	5	145	45	100
Huntley Jiffy, Inc.	350	2	—	—	—	—
J & L Oil, Inc.	59	3	56	—	3	53
Joe Bob's Food Stores, Inc.	46	1	46	0	—	—
Kellam Energy, Inc.	163	3	57	0	54	3
Kellett Oil Co.	10	1	10	—	6	—
Kelley Williamson Co.	38	2	—	13	13	0
Kerr-McGee Refining Corp.	1,937	21	82	1,468	1,479	71
Kickapoo Oil Co., Inc.	57	1	4	—	—	4
Kimber Petroleum Corp.	100	1	100	—	85	15
Kirschner Bros. Oil Co.	25	2	25	—	—	25
Krause Gentle Corp.	107	3	107	—	—	107
Kunz Oil Co.	32	1	32	—	6	26
Kwik Shop, Inc.	148	4	148	—	—	137
Lake Shore Petrocorp	39	2	0	39	36	3
H.C. Lewis Oil Co.	40(S)	1	15	—	15	—
The Lyden Company	170	1	170	—	115	55
M.G.S. Oil, Pet. & Gen. Trading Corp.	27	1	27	0	—	—
Marathon Petroleum Co.	2,488	6	606	1,882	403	—
Martin Oil Marketing, Ltd.	43	2	43	—	—	43
McCall Oil Co.	2	1	2	—	1	—
McDowell Oil Service Inc.	29	1	29	—	—	29
McLeieer Oil, Inc.	60	1	—	—	—	—
Merchants Oil Inc.	42	1	42	—	16	10
Merritt Truax, Inc.	36	1	36	—	36	—
Mid-Continent Systems, Inc.	10	7	10	—	—	10
Mid-Missouri Oil Co.	16	1	16	—	5	11
Mid-States Petroleum	110	3	110	—	77	28
Midwest Petroleum Co.	127	2	127	—	60	67
Miller Enterprises, Inc.	81	1	—	—	—	—
Miller Oil Co.	126	2	44	—	42	2
Missouri Terminal Oil Co.	—	—	—	—	—	—
Mobil Oil Corp.	11,795	37	5,026	6,769	4,378	648
Munro Petroleum Terminal Corp.	34	1	—	—	2	1
Murphy Oil USA, Inc.	601	14	449	152	187	0
Musket Corp.	117	7	117	—	—	117
National Oil & Gas Inc.	81	2	78	3	50	4
Neal, Inc.	30	1	—	—	—	—
Nella Oil Co.	20	1	20	—	1	19
Newell Oil Co., Inc.	16	1	0	8	9	—
Newhall Refining Co.	—	—	—	—	—	—
NOCO Energy Corp.	24	1	24	0	0	24
Oasis Petroleum Corp.	45	11	—	45	—	—
Olympian Oil Co.	43	1	28	0	28	0
Pacer Oil Co.	15	1	10	—	5	10
Parker Oil Co. Inc.	185	3	10	—	—	—
Paromana, Inc.	16	1	16	—	—	—
Patterson Oil Co., Inc.	36	1	36	—	22	14

(O) Includes Price-Less Gas, Inc.
(P) Includes Aero Oil Co., Kingston Oil Co.
(Q) Includes Bay Area/Diablo Petroleum Co.
(R) Includes Hi-Lo Oil Co. Inc., Workingman's Friend Oil Inc., Fairway Oil Inc. affiliates
(S) Includes Kwik-Serv Food Marts

Product Distribution

					BRANDED JOBBERS COMMISSIONED AGENTS		
					Number selling.....		
Commission-operated	Full-service only	Self-service only	Self-service/Full-service	Total	Gasoline only	Fuel Oil only	Gasoline/Fuel Oil
—	—	41	—	—	—	—	—
—	—	—	4	2	—	—	2
0	1	10	0	5	0	0	5
—	0	—	0	0	—	—	—
—	—	—	2	2	—	—	—
0	0	—	0	3	0	0	3
77	1,502	505	291	50	—	—	50
—	—	—	—	—	—	—	—
0	95	24	0	—	—	—	—
—	6	13	0	0	—	—	—
—	—	—	3	1	—	—	1
0	—	—	—	—	—	—	—
—	2,455	1,115	893	134	80	—	54
95	20	80	0	—	—	—	—
—	20	2	—	—	—	—	—
32	100	32	80	0	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	28	25	—	3
—	55	—	—	0	—	—	—
—	—	100	—	5	5	—	—
0	7	3	1	0	—	—	—
—	—	—	—	1	—	—	1
5	25	125	—	10	—	—	10
—	—	—	—	—	—	—	—
0	2	54	—	0	—	—	—
0	0	—	0	—	—	—	—
0	5	44	8	—	—	—	—
—	2	6	2	3	0	0	0
0	5	—	8	2	0	0	2
0	169	909	472	466	37	1	428
—	—	4	—	—	—	—	—
0	100	—	—	0	—	—	—
—	20	5	0	0	—	—	—
—	—	104	3	—	—	—	—
0		—	—	0	—	—	—
11	—	148	—	—	—	—	—
0	21	7	11	0	—	—	—
—	5	0	10	—	—	—	—
—	—	50	120	0	0	0	0
—	17	10	0	—	—	—	—
—	412	166	1,910	414	—	—	414
—	—	43	—	0	—	—	—
—	2	—	—	—	—	—	—
—	—	29	—	—	—	5	—
—	—	—	—	2	—	—	2
16	11	12	19	—	—	—	—
—	36	—	—	0	—	—	—
—	10	—	—	0	—	—	—
—	—	15	1	0	0	0	0
5	46	28	36	7	—	1	6
—	13	78	36	—	—	—	—
—	—	—	—	0	—	—	—
—	15	20	7	—	—	—	—
—	—	—	—	6	1	0	5
0	2,035	2,658	7,102	1,161	1	377	783
—	—	—	3	—	—	—	—
0	20	561	20	0	—	—	—
—	—	117	—	—	—	—	—
27	10	10	61	15	—	—	15
—	—	—	—	0	—	—	—
—	—	19	1	0	—	—	—
7	3	8	5	—	—	—	—
—	—	—	—	—	—	—	—
0	12	8	4	2	0	0	2
—	—	29	16	—	—	—	—
0	3	0	25	0	—	—	—
—	—	15	—	2	2	—	—
—	1	—	9	—	—	—	—
—	—	16	—	—	—	—	—
0	18	10	8	0	—	—	—

(T) Includes Kwik-Way Stores, Inc.
(U) Includes Stop In Food Stores, Inc.
(V) Includes Raceway Petroleum, Inc.
(W) Includes Mr. Food Stores
(X) Includes Port Oil Corp.

BULK PLANTS				TERMINALS				
	Company-operated				Company-operated			
Total	Salary-operated	Commission-operated	Jobber-operated Bulk Plants	Total	Salary-operated	Commission-operated	Jobber operated Terminals	Company
1	—	0	—	1	—	—	—	Fuelman, Inc.
2	2	—	—	0	—	—	—	H.N. Funkhouser & Co.
0	0	0	0	0	0	0	0	The Gas King Corp.
0	—	0	—	0	—	—	—	Gasco Gasoline, Inc.
2	2	0	0	2	2	0	0	Geldbach Petroleum Co., Inc.
—	—	0	—	—	—	—	—	General Oil Co.
14	14	0	0	18	18	0	0	Getty Petroleum Corp.
—	—	—	—	—	—	—	—	Giant Industries, Inc.
—	—	—	—	44	5	0	—	Global Petroleum Corp.
1	1	—	—	0	—	—	—	Godwin Oil Co.
4	4	0	0	0	0	0	0	Golden Gate Petroleum Co.
—	—	0	0	—	—	—	—	Gresham Petroleum Co.
—	—	—	—	28	19	—	48	Gulf Oil
3	—	—	—	—	—	—	—	Gull Industries Inc.
3	—	—	—	0	—	—	—	Harris Enterprises Inc.
0	—	—	—	0	—	—	—	Highway Oil, Inc.
4	4	0	—	0	—	—	—	Angus I. Hines, Inc.
0	—	—	—	0	—	—	—	Hop-In Food Stores
1	1	—	—	1	1	—	—	Hough Fuel
—	—	—	—	—	—	—	—	Huck's Convenience Stores
0	—	—	—	0	—	—	—	Hudson Farris Corp.
0	0	—	0	0	—	—	—	Hull Oil Co.
0	0	0	25	3	1	2	—	Hunt Refining Co.
—	—	—	—	—	—	—	—	Huntley Jiffy, Inc.
0	—	—	—	0	—	—	—	J & L Oil, Inc.
0	—	—	—	0	—	—	—	Joe Bob's Food Stores, Inc.
8	8	0	—	0	—	—	—	Kellam Energy, Inc.
2	2	—	0	0	—	—	—	Kellett Oil Co.
5	3	2	—	0	—	—	—	Kelley Williamson Co.
1	1	0	347	18	18	—	2	Kerr-McGee Refining Corp.
—	—	—	—	—	—	—	—	Kickapoo Oil Co., Inc.
0	—	—	—	0	—	—	—	Kimber Petroleum Corp.
—	—	—	—	—	—	—	—	Kirschner Bros. Oil Co.
0	—	—	—	0	—	—	—	Krause Gentle Corp.
0	—	—	—	0	—	—	—	Kunz Oil Co.
—	—	—	—	—	—	—	—	Kwik Shop, Inc.
0	—	—	—	0	—	—	—	Lake Shore Petrocorp
1	1	—	—	0	—	—	—	H.C. Lewis Oil Co.
4	4	0	—	0	—	—	—	The Lyden Company
—	—	—	—	—	—	—	—	M.G.S. Oil, Pet. & Gen. Trading Corp.
355	—	—	355	51	51	—	—	Marathon Petroleum Co.
0	—	—	—	—	—	—	—	Martin Oil Marketing, Ltd.
—	—	—	—	2	2	—	—	McCall Oil Co.
1	1	—	—	—	—	—	—	McDowell Oil Service Inc.
4	—	—	4	—	—	—	—	McLeieer Oil, Inc.
—	—	—	—	—	—	—	—	Merchants Oil Inc.
3	3	—	—	0	—	—	—	Merritt Truax, Inc.
1	1	—	—	4	4	—	0	Mid-Continent Systems, Inc.
0	—	—	—	0	—	—	—	Mid-Missouri Oil Co.
11	7	0	4	1	—	1	—	Mid-States Petroleum
—	—	—	—	—	—	—	—	Midwest Petroleum Co.
0	—	—	—	0	—	—	—	Miller Enterprises, Inc.
4	4	—	—	1	1	—	—	Miller Oil Co.
0	—	—	—	1	1	0	0	Missouri Terminal Oil Co.
5	0	5	962	75	75	0	0	Mobil Oil Corp.
1	1	—	—	1	1	—	—	Munro Petroleum Terminal Corp.
0	—	—	—	22	22	0	—	Murphy Oil USA, Inc.
—	—	—	—	—	—	—	—	Musket Corp.
13	—	13	—	0	—	—	—	National Oil & Gas Inc.
0	—	—	—	0	—	—	—	Neal, Inc.
0	—	—	—	0	—	—	—	Nella Oil Co.
—	—	—	—	—	—	—	—	Newell Oil Co., Inc.
—	—	—	—	1	—	—	—	Newhall Refining Co.
—	—	—	—	1	—	—	—	NOCO Energy Corp.
—	—	—	—	—	—	—	—	Oasis Petroleum Corp.
0	—	—	—	—	—	—	—	Olympian Oil Co.
0	—	—	—	0	—	—	—	Pacer Oil Co.
11	11	—	—	1	1	—	—	Parker Oil Co. Inc.
—	—	—	—	—	—	—	—	Paromana, Inc.
1	—	—	—	0	—	—	—	Patterson Oil Co., Inc.

(Y) Includes Mission Trail Oil Co.

(Z) Includes RoCo Food Stores

(AA) Includes Herr Gas and Oil Co., Montour Auto Service Co., Mid-State Oil Co., Mascot Petroleum Co., Stop-N-Go Foods, Inc.

(BB) Includes Drake Petroleum Co. Inc., Kenyon Oil Co. Inc., Mid-Valley Oil Co. Inc., Puritan Oil Co. Inc.

(CC) Includes Pioneer Oil Co., 76 Mini-Marts, Inc.

How Oil Companies Handle

Company	TOTAL BRANDED RETAIL OUTLETS	NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED	BRANDED SERVICE STATIONS			
			Supplied Directly	Supplied Through Jobbers and Commissioned Agents	Lessee/ Dealer-operated	Salary-operated
PDQ Food Stores, Inc.	74(T)	5	—	—	—	—
Peavy Oil Co.	9	1	9	—	5	4
Pennzoil Products Co.	491	7	56	435	36	19
Petroleum Marketers, Inc.	153(U)	2	153	0	108	45
Petrotex Marketing Inc.	23	1	23	—	10	9
Pettway Oil Co.	43	3	—	10	10	—
Phillips 66 Co.	10,731	36	226	10,505	7,997	2,724
Pilot Oil Corp.	115	20	115	—	—	0
Pride of Texas Dist. Co.	24	1	9	0	9	0
Pride Oil Co., Inc. (Miss.)	21	2	21	0	0	1
Pride Oil Co., Inc. (Tenn.)	12	1	12	—	10	2
Private Brand Services, Inc.	1	1	1	—	—	1
Publix Oil Co., Inc.	156	6	45	—	15	—
Quiktrip Corp.	250	5	—	—	—	—
Racetrac Petroleum, Inc.	321(V)	14	321	—	160	160
RECO Petroleum, Inc.	107(W)	4	12	—	—	12
Red Hed Oil Co., Inc.	35	1	2	2	4	0
Reinauer Petroleum Co.	14	1	14	—	14	—
Reinhardt Oil Corp.	45	1	10	—	—	10
Remote Services, Inc.	271	9	271	—	—	56
Reynolds Industries, Inc.	4(X)	2	4	—	—	4
River Oil Co.	47	2	47	—	47	—
Robinson Oil Co., Inc.	24(Y)	1	24	—	—	24
Royster Oil Co., Inc.	52(Z)	1	19	—	19	—
Russell Petroleum Corp.	55	1	8	0	4	0
Sahara Oil Co., Inc.	23	1	23	—	6	15
Santee Oil Co., Inc.	20	1	—	15	12	3
SCASCO	40	1	29	—	25	4
Schaeffer Oil, Inc.	5	1	—	—	—	—
Self-Service Oil Co.	16	4	—	—	—	—
Shay Oil Co., Inc.	20	1	—	—	—	20
Shelby Petroleum Corp.	20	2	20	—	—	20
Shell Oil Co.	10,947	41	4,631	—	4,322	309
Shotmeyer Bros. Petroleum Corp.	46	1	46	—	25	—
Sinclair Oil Corp.	2,479	24	—	—	—	—
R.L. Smeltz Oil Co., Inc.	18	1	18	—	12	6
SOS Oil Corp.	58	1	58	—	58	—
Southern Counties Oil Co.	40	1	40	0	30	10
Southern Oil Co., Inc.	13	1	3	—	3	—
Southern States Co-op	120	6	—	—	—	—
The Spencer Companies, Inc.	52	1	8	—	4	—
Steuart Petroleum Co.	20	3	20	0	10	10
Stevens Oil Co.	54	1	20	—	20	—
Sugarcreek Corp.	200	3	196	4	100	80
Sumrall Oil Services, Inc.	74	1	74	0	72	2
Sun Refining & Marketing Co.	5,813(AA)	28	2,318	3,314	5,551	81
Sunshine Jr. Stores, Inc.	306	5	306	—	—	306
Tartan Oil Corp.	55	1	—	—	—	—
Taylor Oil Co.	56	2	56	0	0	0
Texaco Inc.	17,623	44	3,241	14,384	2,369	370
Texas Star Oil Co.	30	1	—	—	—	—
Thornhill Oil Co., Inc.	31	1	—	29	22	7
Time Saver Store	116	1	0	—	—	—
Tooley Oil Co.	9	1	—	—	—	9
Total Petroleum, Inc.	2,394	18	430	1,964	1,473	430
Town Pump Inc. & Affliates	60	1	—	—	—	—
Transit Oil Co.	25	2	25	0	0	25
Travelers Petroleum, Inc.	27	3	27	—	—	—
Trenton Oil Co.	40	1	40	—	22	—
Triton Inc.	47	5	47	0	—	47
Ultra Power Corp.	15	1	0	15	3	—
United Refining Co.	294	3	294	0	0	294
Unocal Corp.	10,817	41	2,835	7,982	2,700	135
Vista Marketing Group Ltd.	16	4	16	—	—	16
WACO Oil Co., Inc.	15	2	16	—	—	16
Wake Up Oil Co., Inc.	40	1	40	—	1	39
Warelubco, Inc.	90	5	90	0	0	90
Warren Equities, Inc.	278(BB)	8	278	—	92	186
Webster Oil Co.	21	1	12	0	12	0
Western Marketing, Inc.	93	1	90	—	0	14
Willard Oil Co., Inc.	27	1	20	0	12	8
A.T. Williams Oil Co.	82	2	82	—	—	—
J.H. Williams Oil Co., Inc.	85(CC)	1	44	1	42	3
The Wills Group, Inc.	113(DD)	1	92	0	42	35
Wyatt Inc.	—	—	—	—	—	—
York Oil Co., inc.	12	1	—	—	—	—
Zephyr Inc.	—	—	—	—	—	—

Product Distribution

				BRANDED JOBBERS COMMISSIONED AGENTS			
					Number selling.....		
Commission-operated	Full-service only	Self-service only	Self-service/ Full-service	Total	Gasoline only	Fuel Oil only	Gasoline/ Fuel Oil
—	—	74	—	—	—	—	—
—	4	5	—	—	—	—	—
—	—	—	—	100	—	—	100
0	—	45	108	0	—	—	—
4	—	14	9	—	—	—	—
—	1	—	9	—	—	—	—
10	2,533	5,832	2,366	1,341	34	3	1,304
0	0	114	1	—	—	—	—
0	0	0	9	—	—	—	—
—	—	—	—	—	—	—	—
—	—	10	2	0	—	—	—
—	—	1	—	—	—	—	—
30	5	20	20	0	—	—	—
—	—	—	—	0	—	—	—
—	—	321	—	0	—	—	—
—	4	4	4	0	—	—	—
0	1	0	3	1	0	0	1
—	14	—	—	0	—	—	—
—	—	10	—	—	—	—	—
215	—	271	—	215	211	—	4
—	3	1	—	0	—	—	—
—	—	—	—	—	—	—	—
—	—	24	—	0	—	—	—
—	—	—	19	—	—	—	—
4	0	—	8	0	—	—	—
2	1	24	—	—	—	—	—
—	—	5	10	—	—	—	—
—	—	—	—	3	3	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	16	—	—	—	—	—
—	—	20	—	1	1	—	—
—	20	—	—	0	—	—	—
—	450	1,500	2,681	474	—	—	—
21	46	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	13	3	2	—	—	—	—
—	—	6	52	0	—	—	—
0	3	37	0	0	—	—	—
—	2	—	1	—	—	—	—
—	—	—	—	—	—	—	—
4	1	—	7	—	0	0	—
0	0	7	13	0	—	—	—
—	—	—	20	—	—	—	—
20	25	90	85	200	190	—	10
0	0	74	0	—	—	—	—
—	—	—	—	3,314	—	—	—
—	—	306	—	—	—	—	—
56	0	56	0	0	—	—	—
502	2,996	8,107	502	1,156	—	—	—
—	—	—	—	—	—	—	—
—	3	19	7	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	9	—	—	—	—
491	0	1,796	596	2,674	0	0	2,674
—	—	—	—	—	—	—	—
0	0	23	2	—	—	—	—
—	27	—	—	—	—	—	—
8	40	—	—	8	8	—	—
—	—	47	—	0	—	—	—
—	2	13	—	5	5	—	—
0	145	141	0	0	—	—	—
—	100	3,398	7,319	724	—	—	—
—	—	16	—	0	—	—	—
—	4	12	—	—	—	—	—
0	2	4	34	0	—	—	—
0	0	8	82	1	—	—	1
—	70	148	60	0	—	—	—
0	0	0	12	—	—	—	—
0	0	90	—	3	0	0	1
0	0	5	11	4	—	—	—
82	0	82	0	0	—	—	—
0	0	3	42	1	—	—	1
15	5	39	48	1	—	—	1
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—

BULK PLANTS				TERMINALS				
	Company-operated				Company-operated			
Total	Salary-operated	Commission-operated	Jobber-operated Bulk Plants	Total	Salary-operated	Commission-operated	Jobber operated Terminals	Company
—	—	—	—	—	—	—	—	PDQ Food Stores, Inc.
1	1	—	—	—	—	—	—	Peavy Oil Co.
4	4	—	—	2	2	—	—	Pennzoil Products Co.
7	7	0	0	0	0	0	0	Petroleum Marketers, Inc.
2	1	1	—	—	—	—	—	Petrotex Marketing Inc.
1	1	—	—	—	—	—	—	Pettway Oil Co.
1	—	1	—	30	30	0	4	Phillips 66 Co.
0	—	—	—	0	—	—	—	Pilot Oil Corp.
—	—	—	—	—	—	—	—	Pride of Texas Dist. Co.
—	—	—	—		—	—	—	Pride Oil Co. Inc. (Miss.)
0	—	—	—	0	—	—	—	Pride Oil Co., Inc. (Tenn.)
0	—	—	—	0	—	—	—	Private Brand Services, Inc.
1	1	—	0	3	3	—	—	Publix Oil Co., Inc.
0	—	—	—	0	—	—	—	Quiktrip Corp.
2	—	2	—	0	—	—	—	Racetrac Petroleum, Inc.
1	—	—	—	0	—	—	—	RECO Petroleum, Inc.
2	1	0	1	0	—	—	—	Red Hed Oil Co., Inc.
—	—	—	—	—	—	—	—	Reinauer Petroleum Co.
4	4	—	—	—	—	—	—	Reinhardt Oil Corp.
0	—	—	—	0	—	—	—	Remote Services, Inc.
0	—	—	—	0	—	—	—	Reynolds Industries, Inc.
3	2	1	—	—	—	—	—	River Oil Co.
0	—	—	—	0	—	—	—	Robinson Oil Co., Inc.
3	3	—	—	0	—	—	—	Royster Oil Co., Inc.
1	1	0	0	1	1	0	0	Russell Petroleum Corp.
2	—	2	—	—	—	—	0	Sahara Oil Co., Inc.
4	1	3	—	—	—	—	—	Santee Oil Co., Inc.
6	—	—	1	0	—	—	—	SCASCO
—	—	—	—	—	—	—	—	Schaeffer Oil, Inc.
1	—	—	—	1	1	—	—	Self-Service Oil Co.
1	1	—	—	—	—	—	—	Shay Oil Co., Inc.
1	1	—	—	0	—	—	—	Shelby Petroleum Corp.
0	0	0	577	98	77	21	—	Shell Oil Co.
—	—	—	—	—	—	—	—	Shotmeyer Bros. Petroleum Corp.
—	—	—	—	—	—	—	—	Sinclair Oil Corp.
1	—	—	—	—	—	—	—	R.L. Smeltz Oil Co., Inc.
1	1	—	—	0	—	—	—	SOS Oil Corp.
4	4	0	0	0	—	—	—	Southern Counties Oil Co.
1	—	—	1	—	—	—	—	Southern Oil Co.
—	—	—	—	2	—	—	1	Southern States Co-op
0	—	—	—	0	—	—	—	The Spencer Companies, Inc.
—	—	—	—	—	—	—	—	Steuart Petroleum Co.
1	—	—	1	—	—	—	—	Stevens Oil Co.
12	12	—	—	3	—	—	—	Sugarcreek Corp.
—	—	—	—	—	—	—	—	Sumrall Oil Services, Inc.
—	—	—	—	37	—	—	—	Sun Refining & Marketing Co.
0	—	—	0	—	—	—	—	Sunshine Jr. Stores, Inc.
—	—	—	—	—	—	—	—	Tartan Oil Corp.
0	—	—	—	2	2	—	—	Taylor Oil Co.
1,156	—	—	1,156	75	70	3	2	Texaco Inc.
—	—	—	—	—	—	—	—	Texas Star Oil Co.
3	3	0	—	0	—	—	—	Thornhill Oil Co., Inc.
0	—	—	0	—	—	—	—	Time Saver Stores, Inc.
—	—	—	—	—	—	—	—	Tooley Oil Co.
89	3	0	86	9	9	—	—	Total Petroleum, Inc.
—	—	—	—	—	—	—	—	Town Pump Inc. & Affliates
0	—	—	—	0	—	—	—	Transit Oil Co.
—	—	—	—	—	—	—	—	Travelers Petroleum, Inc.
1	—	—	1	—	—	—	—	Trenton Oil Co. Inc.
—	—	—	—	1	—	—	—	Triton Inc.
2	0	0	0	0	—	—	0	Ultra Power Corp.
0	—	—	—	2	2	—	—	United Refining Co.
201	46	155	507	55	—	—	—	Unocal Corp.
—	—	—	—	1	—	—	—	Vista Marketing Group Ltd.
—	—	—	—	—	—	—	—	WACO Oil Co., Inc.
0	—	—	—	0	—	—	—	Wake Up Oil Co., Inc.
—	—	—	1	0	—	—	—	Warelubco, Inc.
7	7	0	0	1	1	0	0	Warren Equities, Inc.
1	1	—	—	—	—	—	—	Webster Oil Co.
1	1	—	—	0	—	—	—	Western Marketing, Inc.
—	2	2	0	—	—	—	—	Willard Oil Co., Inc.
0	—	—	—	—	—	—	—	A.T. Williams Oil Co.
4	3	1	0	0	0	0	0	J.H. Williams Oil Co., Inc.
12	11	1	—	1	1	—	0	The Wills Group, Inc.
15	—	—	—	15	—	—	—	Wyatt Inc.
1	—	—	—	1	—	—	—	York Oil Co., Inc.
—	—	—	—	1	1	—	—	Zephyr Inc.

Branded Retail Outlets

Company	TOTAL BRANDED RETAIL OUTLETS	NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED	New England						Middle Atlantic		
			Maine	N.H.	Vt.	Mass.	R.I.	Conn.	N.Y.	N.J.	Pa.
Agway Petroleum Corp.	186	9	7	5	7	8	1	2	106	12	38
American Petrofina, Inc.	4,117(A)	24	—	—	—	—	—	—	—	—	—
American Refining Group, Inc.	5(B)	1	—	—	—	—	—	—	—	—	5
Amoco Corp.	11,291(C)	30	—	—	—	—	—	50	345	345	574
Ashland Oil, Inc.	2,103	18	—	—	—	—	—	—	—	—	35
Atlantic Refining & Marketing Corp.	940(F)	6	—	—	1	—	—	—	256	15	657
Automatic Comfort Corp.	44	1	—	—	—	—	—	44	—	—	—
Aztex Enterprises	35	1	—	—	—	—	—	—	—	—	—
BP America (Ohio)	7,716(I)	29	14	48	57	96	—	56	—	121	370
Bagwell Oil Co., Inc.	33	2	—	—	—	—	—	—	—	—	—
Best Oil Co.	19	1	—	—	—	—	—	—	—	—	19
Bostick Brothers, Inc.	6	1	—	—	—	—	—	—	—	—	—
Bray Terminals, Inc.	73	1	—	—	—	—	—	—	73	—	—
Browning Oil Co.	28	1	—	—	—	—	—	—	—	—	—
Dennis K. Burke, Inc.	1	1	—	—	—	1	—	—	—	—	—
Campbell Oil Co.	90	1	—	—	—	—	—	—	—	—	—
Cannon Oil Corp.	18	3	—	—	—	—	—	—	—	—	—
Center Independent Oil Co.	12	1	—	—	—	—	—	—	—	—	12
Certified Oil Co.	165	3	—	—	—	—	—	—	—	—	—
Champlain Oil Co.	101	4	—	13	81	1	—	—	6	—	—
Charter Marketing Co.	550	13	2	10	—	48	—	58	—	—	—
Chevron Corp.	12,928	34	—	—	—	—	—	—	—	—	3
Circle K Corp.	259	12	—	—	—	—	—	—	—	—	—
CITGO	7,458	39	120	106	74	270	38	186	505	187	362
Clark Oil & Refining Corp.	985	12	—	—	—	—	—	—	—	—	5
Coastal Corporation	880	22	—	—	—	2	—	—	—	6	—
Coen Oil Co.	150	1	—	—	—	—	—	—	—	—	—
Colonial Oil Industries, Inc.	62	3	—	—	—	—	—	—	—	—	—
Como Oil Co.	30	2	—	—	—	—	—	—	—	—	—
Conoco Inc.	5,918	39	—	—	—	—	—	—	—	1	2
Conna Corp.	271	9	—	4	—	—	—	—	11	—	—
Consumers Gasoline Stations Inc.	30	3	—	—	—	—	—	—	—	—	—
Consumers Oil	46	2	—	—	—	—	—	—	—	40	6
Crown Central Petroleum Corp.	720(L)	8	—	—	—	—	—	—	—	—	2
Crystal Flash Petroleum Corp.	20	1	—	—	—	—	—	—	—	—	—
C.S.C. Oil Co.	22	2	—	—	—	—	—	—	—	—	—
K.E. David, Ltd.	5	1	—	—	—	—	—	—	—	—	5
DeBlois Oil Co.	40(M)	2	—	—	—	11	29	—	—	—	—
Delta Group, USA Inc.	36(N)	2	—	—	—	—	—	—	—	—	—
Drakes Refinery Stations	13	1	—	—	—	—	—	—	—	—	—
East Coast Oil Corp.	37	1	—	—	—	—	—	—	—	—	—
Emro Marketing Co.	1,339	18	—	—	—	—	—	—	—	—	—
Engelfield Oil Co.	245	2	—	—	—	—	—	—	—	—	—
Exxon Company, U.S.A.	13,451	37	209	82	—	160	17	102	286	538	764
Farm & Home Oil Co.	20	2	—	—	—	—	—	—	—	3	17
Fortmeyer, Inc.	2	1	—	—	—	—	—	—	—	—	—
Foster Oil Co.	22	1	—	—	—	—	—	—	—	—	—
H.N. Funkhouser & Co.	12	1	—	—	—	—	—	—	—	—	—
Getty Petroleum Corp.	2,298(P)	11	145	74	70	247	45	131	838	420	244
Global Petroleum Corp.	119	4	—	1	—	25	—	—	—	3	—
Godwin Oil Co.	19	1	—	—	—	—	—	—	—	—	—
Gresham Petroleum Co.	15	1	—	—	—	—	—	—	—	—	—
Gulf Oil	4,463	13	203	188	124	644	110	353	832	772	877
Highway Oil, Inc.	212(R)	22	—	2	2	—	—	—	23	—	19
Angus I. Hines, Inc.	50	3	—	—	—	—	—	—	—	—	—
Hop-In Food Stores	26	2	—	—	—	—	—	—	—	—	—
Hough Fuel	56	2	—	—	—	—	—	—	—	54	2
Huck's Convenience Stores	100	4	—	—	—	—	—	—	—	—	—
Hull Oil Co.	31	2	—	—	—	—	—	—	—	—	—
Hunt Refining Co.	150	3	—	—	—	—	—	—	—	—	—
Huntley Jiffy Stores, Inc.	350	2	—	—	—	—	—	—	—	—	—
J. & L. Oil, Inc.	59	3	—	—	—	—	—	—	—	—	—
Joe Bob's Food Stores, Inc.	46	1	—	—	—	—	—	—	—	—	—
Kellam Energy, Inc.	163	3	—	—	—	—	—	—	—	—	—
Kelley Williamson Co.	38	2	—	—	—	—	—	—	—	—	—
Kerr-McGee Refining Corp.	1,937	21	—	—	—	—	—	—	—	—	—
Kickapoo Oil Co., Inc.	57	1	—	—	—	—	—	—	—	—	—
Kimber Petroleum Corp.	100	1	—	—	—	—	—	—	—	100	—
Kirschner Bros. Oil Co.	25	2	—	—	—	—	—	—	20	—	5
Lake Shore Petrocorp	39	2	—	—	—	—	—	—	—	—	—
H.C. Lewis Oil Co.	40(S)	1	—	—	—	—	—	—	—	—	—
The Lyden Company	170	1	—	—	—	—	—	—	—	—	—
Marathon Petroleum Co.	2,488	6	—	—	—	—	—	—	—	—	—
Martin Oil Marketing, Ltd.	43	2	—	—	—	—	—	—	—	—	—
McDowell Oil Service Inc.	29	1	—	—	—	—	—	—	—	—	29

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† Includes District of Columbia

(A) Includes Fina Oil and Chemical Co., Fina Serve, Inc.

(B) Includes 'Round Town Gasoline Stores

(C) Figures are NPN estimates based on company-supplied percentage ranges on direct-supplied stations only

in the United States

South Atlantic									East North Central					East South Central			
Del.	Md.	D.C.	Va.	W.V.	N.C.	S.C.	Ga.	Fla.	Ohio	Ind.	Ill.	Mich.	Wis.	Ky.	Tenn.	Ala.	Miss.
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	14	—	76	168	462	454	—	—	4	—	—	7	184	189	34
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
18	270	45	377	—	719	334	653	684	405	442	1,053	618	489	—	637	378	214
—	—	—	34	376	—	—	—	17	400	48	23	22	70	944	1	—	—
8	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35	—	—
12	21	—	198	66	768	447	928	567	1,285	3	1	263	—	565	754	576	487
—	1	—	32	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	28	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	90	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	1	2	—	—	—	—	—	—	—	15	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	10	—	—	—	—	150	—	—	—	—	5	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	1	157	40	1	1	—	1	—	—	—	—	59
—	175	19	567	240	179	114	825	785	28	11	1	—	—	757	96	812	410
—	—	—	—	—	5	—	20	7	—	—	—	—	—	—	34	4	—
16	105	—	390	45	233	90	291	660	75	45	149	91	239	27	182	321	92
—	—	—	—	3	—	—	—	—	198	116	250	192	101	22	—	—	—
—	—	—	39	3	7	2	3	91	—	—	33	—	—	11	23	—	—
—	—	—	—	—	—	—	—	—	150	—	—	—	—	—	—	—	—
—	—	—	—	—	6	23	33	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	7	—	—	—	—
15	—	—	27	6	37	24	45	38	23	3	68	18	78	14	68	40	75
—	—	—	—	—	11	—	—	22	—	21	26	—	—	159	16	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	25	1	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	100	—	45	—	186	194	99	23	—	—	—	—	—	—	—	71	—
—	—	—	—	—	—	—	—	—	—	20	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	12	—	—	—	—	10	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	4	—	32	—	—	—	—	—
—	—	—	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	37	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	12	33	76	81	70	400	151	145	172	60	54	9	11	22
—	—	—	—	28	—	—	—	—	217	—	—	—	—	—	—	—	—
50	370	48	738	398	1,269	668	439	471	11	—	—	—	—	—	688	343	191
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	22	—	—	—	—	—
—	—	—	12	—	—	—	—	—	—	—	—	—	—	—	—	—	—
33	51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	19	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15
80	10	—	—	4	—	—	—	—	266	—	—	—	—	—	—	—	—
—	5	—	—	5	—	—	2	28	35	9	—	3	—	8	7	2	2
—	—	—	48	1	1	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	23	—	—	3	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	5	80	—	—	10	5	—	—
—	—	—	—	—	—	—	—	30	—	—	—	—	—	—	—	1	—
—	—	—	—	—	—	—	—	20	—	—	—	—	—	—	—	90	40
—	—	—	—	—	—	—	80	270	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	5	—	—	—	41	—	13	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46	—
13	40	—	110	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	36	—	2	—	—	—	—
—	—	1	—	—	—	—	—	8	—	23	163	—	112	11	20	8	11
—	—	—	—	—	—	—	—	—	—	—	—	—	57	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	1	38	—	—	—	—	—	—
—	—	—	—	40	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	170	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	829	559	385	579	4	131	—	—	—
—	—	—	—	—	—	—	—	—	—	18	25	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(D) Includes Canal Refining Co.
(E) Includes Arkansas Valley Distributing
(F) Includes Petroleum Marketing Services Corp.
(G) Includes Prestige Stations, Inc.

Branded Retail Outlets (con't)

Company	TOTAL BRANDED RETAIL OUTLETS	NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED	New England						Middle Atlantic		
			Maine	N.H.	Vt.	Mass.	R.I.	Conn.	N.Y.	N.J.	Pa.
McLeieer Oil, Inc.	60	1	—	—	—	—	—	—	—	—	—
M.G.S. Oil, Pet & Gen Trading Corp.	25	1	—	—	—	—	—	—	—	—	—
Mid-Continent Systems, Inc.	10	7	—	—	—	—	—	—	—	—	—
Mid-States Petroleum	110	3	—	—	—	—	—	—	—	—	—
Midwest Petroleum Co.	127	2	—	—	—	—	—	—	—	—	—
Miller Enterprises, Inc.	81	1	—	—	—	—	—	—	—	—	—
Miller Oil Co.	126	2	—	—	—	—	—	—	—	—	—
Mobil Oil Corp.	11,795	37	255	168	169	608	78	365	1,491	503	985
Munro Petroleum & Terminal Corp.	34	1	—	—	—	—	—	—	—	—	—
Murphy Oil USA, Inc.	601	14	—	—	—	—	—	—	—	—	—
National Oil & Gas Inc.	81	2	—	—	—	—	—	—	—	—	—
NOCO Energy Corp.	24	1	—	—	—	—	—	—	24	—	—
Oaisis Petroleum Corp.	45	1	1	—	—	—	—	—	—	—	1
Parker Oil Co. Inc.	185	3	—	—	—	—	—	—	—	—	—
Patterson Oil Co., Inc.	36	1	—	—	—	—	—	36	—	—	—
PDQ Food Stores, Inc.	74	5	—	—	—	—	—	—	—	—	—
Pennzoil Products Co.	491	7	—	—	—	—	—	—	13	—	143
Petroleum Marketers, Inc	153(U)	2	—	—	—	—	—	—	—	—	—
Pettway Oil Co.	43	3	—	—	—	—	—	—	—	—	—
Phillips 66 Co.	10,731	36	—	—	—	—	—	—	—	—	2
Pilot Oil Corp.	115	20	—	—	—	—	—	—	—	2	1
Pride Oil Co. (Miss.)	21	2	—	—	—	—	—	—	—	—	—
Pride Oil Co., Inc. (Tenn.)	12	1	—	—	—	—	—	—	—	—	—
Private Brand Services, Inc.	1	1	—	—	—	—	—	—	—	—	—
Publix Oil Co.	156	6	—	—	—	—	—	—	—	—	—
Quiktrip Corp.	250	5	—	—	—	—	—	—	—	—	—
Qztex Energy Co.	35	1	—	—	—	—	—	—	—	—	—
Racetrac Petroleum, Inc.	321(V)	14	—	—	—	—	—	—	—	—	—
RECO Petroleum, Inc.	107(W)	4	—	—	—	—	—	—	—	—	70
Red Hed Oil Co., Inc.	35	1	—	—	—	—	—	—	—	—	—
Reinauer Petroleum Co.	14	1	—	—	—	—	—	—	—	14	—
Reinhardt Oil Corp.	45	1	—	—	—	—	—	—	45	—	—
Remote Services, Inc.	271	9	—	4	—	—	—	—	11	—	—
Reynolds Industries, Inc.	4(X)	2	2	—	—	2	—	—	—	—	—
River Oil Co.	47	2	—	—	—	—	—	—	—	—	—
Royster Oil Co., Inc.	52(Z)	1	—	—	—	—	—	—	—	—	—
Russell Petroleum Corp.	55	1	—	—	—	—	—	—	—	—	—
Santee Oil Co.	20	1	—	—	—	—	—	—	—	—	—
SCASO	40	1	—	—	—	—	—	40	—	—	—
Self-Service Oil Co.	16	4	—	—	—	—	—	—	—	—	—
Shelby Petroleum Corp.	20	2	—	—	—	—	—	—	—	—	—
Shell Oil Co.	10,947	41	—	12	—	234	56	151	194	284	100
Shotmeyer Bros. Petroleum Corp.	46	1	—	—	—	—	—	—	—	46	—
Sinclair Oil Co.	2,479	24	—	—	—	—	—	—	—	—	—
R.L. Smeltz Oil Co., Inc.	18	1	—	—	—	—	—	—	—	—	18
SOS Oil Corp.	58	1	—	—	—	—	—	—	58	—	—
Southern Oil Co., Inc.	13	1	—	—	—	—	—	—	—	—	—
Southern States C0-OP	120	6	—	—	—	—	—	—	—	—	—
The Spencer Co.., Inc.	52	1	—	—	—	—	—	—	—	—	—
Steuart Petroleum Co.	20	3	—	—	—	—	—	—	—	—	—
Stevens Oil Co.	54	1	—	—	—	—	—	—	—	—	—
Sugarcreek Corp.	200	3	—	—	—	—	—	—	185	10	5
Sumrall Oil Services, Inc.	74	1	—	—	—	—	—	—	—	—	—
Sun Refining & Marketing Co.	5,813(AA)	28	42	69	6	398	119	214	987	457	793
Sunshine Jr. Stores, Inc.	306	5	—	—	—	—	—	—	—	—	—
Tartan Oil Corp.	55	1	—	—	—	—	—	—	55	—	—
Taylor Oil Co.	56	2	—	—	—	—	—	—	—	—	—
TCR, Inc.	22	3	—	—	—	—	—	—	—	—	—
Texaco Inc.	17,623	44	142	109	84	411	75	292	454	415	795
Thornhill Oil Co., Inc.	31	1	—	—	—	—	—	—	—	—	—
Total Petroleum, Inc.	2,394	18	—	—	—	—	—	—	—	—	—
Transit Oil Co.	25	2	—	—	—	—	—	—	—	—	—
Travelers Petroleum, Inc.	27	3	—	—	—	—	—	—	—	—	—
Trenton Oil Co., Inc.	40	1	—	—	—	—	—	—	—	40	—
Triton, Inc.	47	5	—	—	—	—	—	—	—	—	—
Ultra Power Corp.	15	1	—	—	—	—	—	—	15	—	—
United Refining Co.	285	3	—	—	—	—	—	—	147	—	130
Unocal Corp.	10,817	41	—	—	—	—	—	2	2	2	20
Vista Marketing Group Ltd.	16	4	—	—	—	—	—	—	—	—	—
Waco Oil., Inc.	15	1	—	—	—	—	—	—	—	—	—
Wake Up Oil Co., Inc.	40	1	—	—	—	—	—	—	—	—	—
Warelubco, Inc.	90	5	—	—	—	—	—	—	—	—	—
Warren Equities, Inc.	278(BB)	8	9	9	—	62	54	53	38	34	19
Willard Oil Co., Inc.	27	1	—	—	—	—	—	—	—	—	—
A.T. Williams Oil Co.	82	2	—	—	—	—	—	—	—	—	—
J.H. Williams Oil Co., Inc.	85(CC)	1	—	—	—	—	—	—	—	—	—
The Wills Group, Inc.	113(DD)	1	—	—	—	—	—	—	—	—	—
York Oil Co. Inc.	12	1	—	—	—	—	—	—	—	—	—

(H) Includes Darpetro, Inc.
(I) Includes Boron Oil Co., BP Oil Co., Gulf Products Division
(J) Includes Sav-O-Mat Inc.
(K) Includes J & W corp., West Ark Oil Co.
(L) Includes Fast Fare, Zippy Mart
(M) Includes Beacon Oil Co

South Atlantic									East North Central					East South Central			
Del.	Md.	D.C.	Va.	W.V.	N.C.	S.C.	Ga.	Fla.	Ohio	Ind.	Ill.	Mich.	Wis.	Ky.	Tenn.	Ala.	Miss.
—	—	—	—	—	—	—	—	—	—	—	—	60	—	—	—	—	—
—	—	—	—	—	—	—	—	—	25	—	—	—	—	—	—	—	—
—	—	—	—	—	1	—	2	—	—	—	—	—	—	1	2	—	2
—	—	—	—	—	—	—	—	—	3	25	—	82	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	25	—	—	—	—	—	—
—	—	—	—	—	—	—	—	81	—	—	—	—	—	—	—	—	—
—	—	—	75	—	51	—	—	—	—	—	—	—	—	—	—	—	—
61	137	2	149	63	167	—	20	443	258	169	462	547	541	55	139	21	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34
—	—	—	21	—	39	13	54	96	—	—	—	4	93	5	70	79	20
—	—	—	—	—	—	—	—	—	5	76	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	2	—	2	—	2	—	2	10	16	1	4	—	—	—	—	4	—
—	1	—	180	—	4	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	20	—	—	—	—
—	—	—	1	116	—	—	—	—	193	5	—	—	—	20	—	—	—
—	—	—	145	8	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	38	2	—
—	72	—	273	69	732	349	428	558	12	371	598	84	271	173	349	402	200
—	—	—	18	1	8	1	4	9	4	3	—	—	—	15	39	2	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	19
—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
—	—	—	1	—	42	46	4	—	—	—	—	—	—	3	60	—	—
—	—	—	—	—	—	—	6	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35	—	—
—	1	—	14	—	3	10	46	38	—	—	—	—	—	2	28	136	9
—	3	—	16	18	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	35	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	11	—	—	22	—	21	27	—	—	158	16	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	45	—	2
—	—	—	—	—	52	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	55	—
—	—	—	—	—	—	20	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	4	—	6	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	10	—	—
40	251	11	345	10	464	231	381	618	468	337	627	682	227	302	321	362	306
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	7	—	30	—	28	—	—
—	—	—	13	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15	25	—	25	15	20	—	—	—	—	—	—	—	—	20	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	52	—
—	15	1	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	54	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	74
30	122	16	37	51	83	9	—	—	599	141	252	407	—	131	—	—	—
—	—	—	—	—	—	—	20	154	—	—	—	—	—	—	—	90	36
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	10	46	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	1	10	—	—	—	—	—	—	—	11	—
64	233	10	552	56	938	449	613	723	—	—	34	—	—	59	539	734	197
—	—	—	—	—	—	—	—	—	—	31	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	10	—	17	497	76	1	19	—	—
—	—	—	—	—	—	—	—	—	—	5	—	—	—	20	—	—	—
—	—	—	—	—	—	14	8	5	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	15	—	9	6	16	1	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	17	—	—	—	—	—	—	—	—
—	7	—	317	162	709	264	579	701	657	484	557	702	442	219	386	720	392
—	—	—	—	—	—	—	—	—	—	—	4	—	6	—	—	—	—
—	—	—	—	—	—	—	—	—	4	—	—	—	—	11	—	—	—
—	—	—	—	—	—	—	—	—	—	40	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	8	—	3	63	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	27	—	—	—	—	—	—	—	—	—	—	—
—	—	—	39	—	43	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	85	—	—	—	—	—	—	—	—	—
—	113	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	12	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(N) Includes Imperial Oil Co., Royal Inc., One Stop Food Stores
(O) Includes Price-Less Gas, Inc
(P) Includes Aroe Oil Co., Kingston Oil Co.
(Q) Includes Bay Area/Diablo Petroleum Co.
(R) Includes Hi-Lo Oil Co., Inc. Workingman's Friend Oil, Inc. Fairway Oil Inc. affiliates
(S) Includes Kwik-Serv Food Marts
(T) Includes Kwik-Way Stop
(U) Includes Stop in Food Stores, Inc.

Branded Retail Outlets (con't)

	TOTAL BRANDED RETAIL OUTLETS	NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED	West North Central						
			Minn.	Iowa	Mo.	N.D.	S.D.	Neb.	Kan.
Ada Resources & Energy, Inc.	125	1	—	—	—	—	—	—	—
American Petrofina, Inc.	4,117(A)	24	72	41	171	5	24	43	157
Amoco Corp.	11,291(C)	30	526	454	476	216	197	166	253
Anchor Gasoline Corp.	61(D)	1	—	—	—	—	—	—	—
Arkansas Valley Petroleum	42(E)	2	—	—	2	—	—	—	—
Ashland Oil, Inc.	2,103	18	98	8	3	1	5	—	—
Atlantic Richfield Co.	1,738(G)	5	—	—	—	—	—	—	—
BP America (Ohio)	7,716(I)	29	—	—	2	—	—	—	—
Beacon Oil Co.	300	6	—	—	—	—	—	—	—
Beneto Inc.	14(H)	1	—	—	—	—	—	—	—
Bradley Petroleum Inc.	33(J)	3	—	—	—	—	—	—	—
Brennan Petroleum Co.	1	1	—	—	—	—	—	—	—
Charter Marketing Co.	550	13	—	—	—	—	—	—	—
Chevron Corp.	12,928	34	—	—	2	—	—	—	—
W.R. Childress Oil Co., Inc.	50	1	—	—	—	—	—	—	—
Chrystal Petroleum Corp.	20	1	—	—	—	—	—	—	—
Circle K Corp.	259	12	—	—	—	—	—	—	—
CITGO Petroleum Corp.	7,458	39	46	33	148	—	—	—	28
Clark Oil & Refining Corp.	985	12	23	8	56	—	—	—	11
The Coastal Corp.	880	22	11	113	107	—	6	60	247
Como Oil Co.	30	2	23	—	—	—	—	—	—
Conoco Inc.	5,918	39	149	234	354	91	69	211	229
Conna Corp.	271	9	—	1	—	—	—	—	—
Cook & Cooley, Inc.	60	1	—	—	—	—	—	—	—
Crockett Oil Co.	20	4	—	—	13	—	—	—	5
Crystal Petroleum Co.	20	1	—	—	—	—	—	—	—
Curtis Parker Oil Co. Inc.	22	1	—	—	—	—	—	—	—
Diamond Shamrock Refining & Marketing Co.	1,976	—	—	5	—	—	—	—	32
Dickey Inc.	5	1	—	5	—	—	—	—	—
Emro Marketing Co.	1,339	18	—	—	—	—	—	—	—
Exxon Company, U.S.A.	13,451	37	—	—	—	—	1	—	—
Fas-Stop, Inc.	5	1	—	—	—	—	—	—	5
Fleischli Oil Co.	5	1	—	—	—	—	—	—	—
F.O. Fletcher Inc.	19(O)	3	—	—	—	—	—	—	—
Flying J Inc.	90	12	—	—	—	8	—	—	—
Franko Oil Co.	50	2	—	—	—	—	—	—	—
Fuelman, Inc.	41	3	—	—	—	—	—	—	—
The Gas King Corp.	11	5	—	—	—	—	—	—	—
Gasco Gasoline, Inc.	59	1	—	—	—	—	—	—	—
Geldbach Petroleum Co.	4	1	—	—	4	—	—	—	—
General Oil Co.	37	1	—	—	—	—	—	—	—
Giant Industries, Inc.	13	3	—	—	—	—	—	—	—
Golden Gate Petroleum Co.	11(Q)	1	—	—	—	—	—	—	—
Gull Industries Inc.	100	2	—	—	—	—	—	—	—
Harris Enterprises Inc.	22	2	—	—	—	—	—	—	—
Highway Oil, Inc.	212(R)	22	—	1	13	—	4	—	23
Hudson Farris Corp.	11	2	—	—	—	—	—	—	—
Kellett Oil Co.	10	1	—	—	10	—	—	—	—

(V) Includes Raceway Petroleum, Inc.
(W) Includes Mr. Food Stores
(X) Includes Port Oil Corp.
(Y) Includes Mission Trail Oil Co.

West South Central				Mountain								Pacific				
Ark.	La.	Okla.	Texas	Mont.	Idaho	Wyo.	Colo.	N.M.	Ariz.	Utah	Nev.	Wash.	Ore.	Calif.	Alaska	Hawaii
—	—	—	125	—	—	—	—	—	—	—	—	—	—	—	—	—
155	147	200	1,352	—	—	—	7	148	3	—	—	—	—	—	—	—
—	—	—	—	—	47	92	214	—	—	—	—	—	—	—	—	—
—	61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	17	—	1	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	63	—	66	272	181	1,156	—	—
2	—	2	2	—	—	—	—	3	—	—	—	—	—	2	—	—
—	—	—	2	—	—	—	—	3	4	—	2	—	4	285	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	—	—
—	—	—	—	—	1	—	27	5	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
—	86	—	86	—	—	—	—	—	—	—	—	—	—	—	—	—
518	614	270	2,570	69	139	38	99	272	189	131	89	470	311	1,848	132	145
—	—	—	50	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	20	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	74	74	—	—	—	—	—	21	9	—	6	—	1	—	4
161	322	237	1,210	—	—	—	207	37	2	127	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	40	41	—	—	3	30	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
248	588	585	944	331	65	138	508	190	10	183	10	133	—	66	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	60	—	—
1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	20	—	—	—	—	—	—	—	—	—	—	—	—	—
—	22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
63	32	97	1,513	—	—	—	131	93	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4	22	1	16	—	—	—	—	—	—	—	—	—	—	—	—	—
427	585	2	2,534	253	39	18	66	143	298	28	44	246	138	787	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	5	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	2	—	—	—	—	—	—	5	12	—	—	—
—	—	—	—	5	3	4	5	1	1	18	2	16	5	13	—	—
—	—	—	—	—	—	—	—	—	—	—	—	9	41	—	—	—
—	31	2	8	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	4	1	—	—	—	4	—	—	1	1	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	59	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	1	6	6	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	11	—	—
—	—	—	—	—	—	—	—	—	—	—	—	80	—	20	—	—
—	—	—	—	—	—	—	—	—	—	—	—	2	20	—	—	—
—	—	—	12	—	—	4	3	—	—	—	—	—	—	—	—	—
—	—	10	1	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Z) Includes RoCo Food Stores

(AA) Includes Herr Gas and Oil Co., Montour Auto Service Co., Mid State Oil Co., Mascot Petroleum Co., Stop-N-Go Foods, Inc.

(BB) Includes Drake Petroleum Co. Inc., Kenyon Oil Co., Inc.

(CC) Includes Pioneer Oil Co., 76 Mini-Marts, Inc.

(DD) Includes SMO, Inc., Dash In Food Stores

Branded Retail Outlets (con't)

	TOTAL BRANDED RETAIL OUTLETS	NUMBER OF STATES WHERE GASOLINE BRAND IS MARKETED	West North Central						
			Minn.	Iowa	Mo.	N.D.	S.D.	Neb.	Kan.
Kent Distributors, Inc.	30	1	—	—	—	—	—	—	—
Kerr-McGee Refining Corp.	1,937	21	38	157	150	9	38	127	159
Krause Gentle Corp.	107	3	—	98	—	8	—	—	—
Kunz Oil Co.	32	1	32	—	—	—	—	—	—
Kwik Shop, Inc.	148	4	—	31	—	—	—	43	58
McCall Oil Co.	2	1	—	—	—	—	—	—	—
Merchants Oil Co.	42	1	—	—	—	—	—	—	—
Merritt Truax, Inc.	36	1	—	—	—	—	—	—	—
Mid-Continent Systems, Inc.	10	8	—	—	—	—	—	—	—
Mid-Missouri Oil Co.	16	1	—	—	16	—	—	—	—
Midwest Petroleum Co.	127	2	—	—	102	—	—	—	—
Mobil Oil Corp.	11,795	37	359	—	102	31	—	—	—
Murphy Oil USA, Inc.	601	14	60	—	—	—	—	—	—
Musket Corp.	117	7	—	—	—	—	—	—	16
Neal, Inc.	30	1	—	—	—	—	—	—	—
Nella Oil Co.	20	1	—	—	—	—	—	—	—
Newall Oil Co.	16	1	—	—	—	—	—	—	—
Olympian Oil Co.	43	1	—	—	—	—	—	—	—
PDQ Food Stores, Inc.	74(T)	5	14	—	—	—	—	—	—
Pacer Oil Co.	15	1	—	—	—	—	—	—	—
Paromana, Inc.	16	1	—	—	—	—	—	—	—
Peavy Oil Co.	9	1	—	—	—	—	—	—	—
Petrotex Marketing Inc.	23	1	—	—	—	—	—	—	—
Phillips 66 Co.	10,731	36	433	418	700	29	139	265	355
Pilot Oil Corp.	115	20	—	1	1	—	-	—	—
Pride of Texas Dist. Co.	24	1	—	—	—	—	—	—	—
Quiktrip Corp.	250	5	—	50	64	—	—	—	56
Racetrac Petroleum, Inc.	321(V)	14	—	—	1	—	—	-	—
Remote Services, Inc.	271	9	—	1	—	—	—	-	—
Robinson Oil Co., Inc.	24(Y)	1	—	—	—	—	—	—	—
Sahara Oil Co., Inc.	23	1	—	—	—	—	—	—	—
Schaeffer Oil Inc.	5	1	—	—	—	5	—	—	
Self-Service Oil Co.	16	4	—	1	5	—	—	—	—
Shay Oil Co., Inc.	20	1	—	—	—	—	—	—	—
Shell Oil Co.	10,947	41	—	37	218	—	—	—	—
Sinclair Oil Corp.	2,479	24	166	210	389	139	167	168	63
Southern Counties Oil Co.	40	1	—	—	—	—	—	—	—
Sun Refining & Marketing Co.	5,813(AA)	28	—	175	208	—	—	15	18
Sunshine Jr. Stores, Inc.	306	5	—	—	—	—	—	—	—
Texaco Inc.	17,623	44	—	236	399	—	88	172	234
Texas Star Oil Co.	30	1	—	—	—	—	—	—	—
Time Saver Stores, Inc.	116	1	—	—	—	—	—	—	—
Tooley Oil Co.	9	1	—	—	—	—	—	—	—
Total Petroleum, Inc.	2,394	18	82	121	408	4	23	124	442
Town Pump Inc. & Affiliates	60	1	—	—	—	—	—	—	—
Unocal Corp.	10,817	41	349	102	24	—	10	5	1
Vista Marketing Group Ltd.	16	4	—	1	5	—	—	—	—
Warelubco, Inc.	90	5	—	14	2	—	—	—	—
Webster Oil Co.	21	1	—	—	21	—	—	—	—
Western Marketing, Inc.	93	1	—	—	—	—	—	—	—

West South Central				Mountain								Pacific				
Ark.	La.	Okla.	Texas	Mont.	Idaho	Wyo.	Colo.	N.M.	Ariz.	Utah	Nev.	Wash.	Ore.	Calif.	Alaska	Hawaii
—	—	—	30	—	—	—	—	—	—	—	—	—	—	—	—	—
250	11	404	224	—	—	—	—	13	—	—	—	—	—	—	—	—
—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	16	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—
—	—	—	—	—	—	—	42	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	36	—	—	—
1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4	342	—	951	—	—	—	—	—	251	—	17	250	288	1,343	1	—
6	41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	1	76	11	—	—	—	8	3	—	—	—	—	—	—	—	—
—	—	—	30	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	20	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	43	—	—
—	—	—	—	—	—	3	32	—	—	—	5	—	—	—	—	—
—	—	15	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16
—	—	—	—	—	—	—	—	—	—	—	—	—	9	—	—	—
—	—	—	23	—	—	—	—	—	—	—	—	—	—	—	—	—
302	334	599	1,425	—	107	60	284	157	6	167	2	—	6	—	—	—
1	—	—	1	—	—	—	—	1	2	—	—	—	—	1	—	—
—	—	—	24	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	74	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	13	—	17	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	24	—	—
—	—	—	—	—	—	—	—	—	23	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	20	—	—	—	—	1	—	—
80	592	23	668	—	53	—	10	93	48	22	37	255	237	1,493	—	67
85	58	109	1	171	182	75	195	13	5	180	17	10	11	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	40	—	—
43	—	390	1	—	—	—	—	—	—	—	—	—	—	—	—	—
—	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
431	818	625	2,993	—	84	83	313	188	185	183	77	483	338	1,135	63	50
—	—	—	30	—	—	—	—	—	—	—	—	—	—	—	—	—
—	116	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	—	—
49	—	425	30	—	—	—	53	13	—	—	—	—	—	—	—	—
—	—	—	—	60	—	—	—	—	—	—	—	—	—	—	—	—
85	164	3	47	—	11	—	1	2	156	35	61	265	188	1,812	46	126
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	93	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Number of Employees

(As of Jan. 1, 1987)

	Mining	Refining		Transportation		Wholesale	Retail	
	Oil and Gas Extraction	Petroleum Refining	Oils and Greases	Pipelines, Except Gas	Gas Distribution	Petroleum Products	Gasoline Stations	Total Industry
Alabama	1,419	381	64	92	2,986	5,119	7,544	17,605
Alaska	8,457	255	0	902	297	503	1,170	11,584
Arizona	108	N/A	0	112	1,835	1,506	8,481	12,042
Arkansas	2,758	627	0	N/A	2,194	2,797	4,984	13,360
California	32,842	25,115	724	1,153	11,491	17,049	62,588	150,962
Colorado	20,078	566	43	105	2,221	2,633	8,060	33,706
Connecticut	161	N/A	90	N/A	1,300	1,568	9,564	12,683
Delaware	9	641	9	0	293	365	1,368	2,685
District of Columbia	66	89	0	0	639	163	981	1,938
Florida	780	73	181	56	2,101	7,024	29,495	39,710
Georgia	89	115	135	468	4,064	5,663	17,332	27,866
Hawaii	N/A	415	0	0	335	577	3,623	4,950
Idaho	55	0	0	15	398	1,420	2,742	4,630
Illinois	5,119	6,060	N/A	926	8,470	9,939	25,279	55,793
Indiana	681	2,535	267	417	2,982	3,355	16,713	26,950
Iowa	28	0	53	160	1,365	3,237	11,788	16,631
Kansas	10,403	2,315	406	1,743	3,098	2,604	7,752	28,321
Kentucky	2,497	3,485	83	154	3,043	2,821	10,253	22,336
Louisiana	60,900	11,500	600	1,200	6,500	5,200	8,000	93,900
Maine	8	N/A	N/A	N/A	N/A	1,498	2,777	4,283
Maryland	21	N/A	302	0	1,139	3,105	13,342	17,909
Massachusetts	765	22	368	10	4,991	2,513	15,719	24,388
Michigan	4,093	1,652	576	272	7,083	5,551	22,042	41,269
Minnesota	N/A	N/A	N/A	190	2,349	2,649	15,969	21,157
Mississippi	6,112	1,567	108	N/A	2,074	2,697	5,347	17,905
Missouri	108	40	369	229	4,919	5,783	17,985	29,433
Montana	2,314	855	2	97	286	1,347	3,031	7,932
Nebraska	741	16	118	112	2,902	1,962	6,548	12,399
Nevada	247	58	0	19	669	423	3,611	5,027
New Hampshire	1	0	4	3	263	432	2,779	3,482
New Jersey	131	6,571	1,086	164	2,182	3,634	19,365	33,133
New Mexico	9,935	868	36	234	3,368	2,012	3,880	20,333
New York	2,152	6,783	414	125	6,410	9,081	28,280	53,245
North Carolina	14	N/A	212	116	2,588	5,702	10,780	19,412
North Dakota	3,126	230	154	158	1,068	2,327	2,307	9,370
Ohio	7,872	5,341	725	627	7,447	6,074	29,865	57,951
Oklahoma	49,626	6,753	429	1,369	5,540	4,762	5,963	74,442
Oregon	104	N/A	52	N/A	N/A	2,529	8,334	11,019
Pennsylvania	4,500	8,300	800	700	8,600	9,300	26,300	58,500
Rhode Island	N/A	N/A	N/A	N/A	880	426	2,471	3,777
South Carolina	20	0	N/A	N/A	593	3,664	7,507	11,784
South Dakota	126	0	0	62	122	1,533	2,669	4,512
Tennessee	361	261	186	42	1,783	5,367	11,482	19,482
Texas	194,503	30,826	1,200	4,739	27,115	24,557	34,728	317,668
Utah	2,427	794	1	84	2,360	1,645	4,965	12,276
Vermont	1	0	0	0	143	364	1,954	2,462
Virginia	N/A	N/A	50	N/A	2,790	7,780	15,730	26,350
Washington	199	1,578	N/A	83	1,636	2,640	9,862	15,998
West Virginia	4,670	432	122	102	4,880	1,514	4,745	16,465
Wisconsin	N/A	N/A	85	161	2,860	5,563	15,406	24,075
Wyoming	10,991	916	2	269	1,144	1,316	2,545	17,183
TOTAL	**451,618**	**128,035**	**10,056**	**17,470**	**165,796**	**203,293**	**596,005**	**1,572,273**

Note: Data differ from the Bureau of Labor Statistics national averages due to confidentiality rules.
Source: Independent Petroleum Assn. of America, "The Oil and Gas Producing Industry in Your State—1987-1988."

How Distillates Were Used in 1986

(Add 000 gal.)

Use	1986	1985	% Change	% Share of Total Distillates Use in 1986	% Share of Total Distillates Use in 1985
Residential	7,294,814	7,212,897	1.1%	16.3%	16.4%
Commercial	4,293,095	4,514,211	(5.0)	9.6	10.3
Industrial	2,684,102	2,592,678	3.5	6.0	5.9
Oil Company	749,992	876,505	(14.4)	1.7	2.0
Farm	3,380,046	3,311,309	2.0	7.6	7.5
Elec. Utilities	614,361	514,327	19.4	1.4	1.2
Railroad	3,099,616	3,209,729	(3.4)	6.9	7.3
Vessel Bunkering	2,034,215	1,894,265	7.4	4.6	4.3
On-Highway Diesel	17,926,508	17,279,650	3.7	40.1	39.3
Military	760,417	768,179	(1.0)	1.7	1.8
Off-Highway Diesel	1,699,252	1,616,685	5.1	3.8	3.7
All other	140,161	176,299	(20.5)	0.3	0.4
U.S. Total	**44,677,080**	**43,966,734**	**1.6**	—	—

Source: Energy Information Administration, Petroleum Marketing Monthly, July 1987

How Residual Was Used in 1986

(Add 000 gal.)

Use	1986	1985	% Change	% Share of Total Residual Use in 1986	% Share of Total Residual Use in 1985
Commercial	1,663,005	1,326,870	25.3%	7.6%	6.7%
Industrial	4,492,393	4,011,361	12.0	20.7	18.8
Oil Company	766,034	776,019	—	3.5	5.5
Elec. Utilities	9,041,608	6,183,985	46.2	41.6	37.2
Railroad	569	6,163	—	—	—
Vessel Bunkering	5,287,374	5,473,562	(3.4)	24.3	27.0
Military	180,918	192,918	(6.2)	0.8	1.1
All other	312,241	460,402	(32.2)	1.4	3.7
U.S. Total	**21,744,114**	**18,431,280**	—	—	—

Source: Energy Information Administration, Petroleum Marketing Monthly, July 1987.

How Kerosine Was Used in 1986

(Add 000 gal.)

Use	1986	1985	% Change	% Share of Total Kerosine Use in 1986	% Share of Total Kerosine Use in 1985
Residential	671,742	862,573	(22.1%)	44.6%	49.1%
Commercial	307,704	367,218	(16.2)	20.4	21.0
Industrial	173,859	254,491	(31.7)	11.5	14.6
Farm	47,948	53,434	(10.3)	3.2	3.1
All other	334,908	208,139	60.9	22.2	11.9
U.S. Total	**1,506,162**	**1,745,856**	**(13.7)**	—	—

Source: Energy Information Administrations, Petroleum Marketing Monthly, July 1987.

How New Homes Are Heated

Region	New Homes Completed (Add 000)	Share of New Homes by Fuels and Percentages: Gas	Electric	Oil	Other
Northeast	195	44%	27%	27%	2%
Midwest(a)	200	83	13	1	3
South	466	33	65	(*)	2
West	258	68	25	(*)	7
Total 1987	**1,120**	**52%**	**40%**	**5%**	**3%**
Total 1986	**1,120**	**47%**	**44%**	**5%**	**4%**

(a) Formerly called "North Central;"

(*) Statistical data did not meet publication standards.

Source: U.S. Department of Commerce, 1987 Construction Reports, preliminary data published in March 1988.

Gas: Who Uses It for Heat

Region	% of Gas-Heated Homes to Total Gas-Using Homes	Consumers Added in 1986 (Add 000): New Homes	Existing Homes	Total Added
New England	69.6%	19.2	20.5	39.7
Mid-Atlantic	64.2	76.8	43.9	120.7
East North Central	94.7	113.2	37.4	150.6
West North Central	97.7	65.2	5.8	71.0
South Atlantic	89.9	83.5	20.0	103.5
East South Atlantic	91.1	20.4	8.2	28.6
West South Atlantic	92.7	36.9	1.6	38.5
Mountain	96.2	75.4	2.7	78.1
Pacific	96.5	195.0	8.4	203.4
Total	**88.8%**	**685.6**	**148.5**	**834.1**
% Change '86 vs. '85	—	12.9%	(0.5%)	10.2%

Source: American Gas Assn., Home Heating Survey 1986, Table #3.

Gas Heat Equipment Shipments

Class and Type of Equipment	1987	1986	% Change
Central Heating:			
Furnaces	2,072,925	2,104,805	(1.5%)
Boilers	189,662	196,022	(3.2)
Space Heating:			
Wall Furnaces Vented	165,540	196,930	(15.9)
RV Systems	234,771	208,043	12.8
Water Heaters:			
Gas	3,950,779	3,728,779	6.0
Electric	3,396,395	3,389,150	0.2
Oil(a)	37,000	35,000	5.7

(a) Estimated by fuel oil industry sources for comparison.

Source: Gas Appliance Manufacturers Assn.

Distillate Deliveries in 1986...

(Add 000 gal.)

	Residential		Commercial		Industrial	
Destination	1985	1986	1985	1986	1985	1986
PAD District 1						
New England States						
Connecticut	410,776	486,135	149,332	148,011	36,715	36,171
Maine	205,490	238,602	40,787	65,571	8,856	9,610
Massachusetts	756,390	776,428	240,087	280,327	30,429	50,658
New Hampshire	136,429	135,995	23,167	37,673	6,729	5,912
Rhode Island	143,918	125,898	18,579	33,861	7,087	8,384
Vermont	93,555	77,598	22,295	22,567	9,192	9,179
Central Atlantic States						
Delaware	56,022	44,361	14,056	10,267	8,252	8,054
District of Columbia	20,856	16,728	31,522	41,454	751	185
Maryland	211,450	202,295	81,763	64,719	38,934	38,621
New Jersey	760,742	725,030	237,342	373,217	63,179	86,418
New York	1,304,675	1,430,302	498,203	691,598	100,278	60,736
Pennsylvania	911,749	792,213	207,646	252,099	138,695	168,109
Lower Atlantic States						
Florida	23,894	19,440	153,930	143,564	36,490	37,009
Georgia	14,881	15,290	65,071	41,664	41,819	44,271
North Carolina	205,416	209,081	111,519	101,547	59,582	75,319
South Carolina	48,525	49,350	35,405	29,475	33,649	21,825
Virginia	216,319	272,675	103,562	118,807	54,511	78,909
West Virginia	19,465	23,444	25,398	31,480	49,949	36,842
Total	**5,540,552**	**5,640,866**	**2,059,663**	**2,487,902**	**725,046**	**776,212**
PAD District 2						
Illinois	95,036	92,199	167,325	83,345	65,621	126,665
Indiana	107,673	121,016	111,010	77,236	111,037	114,395
Iowa	60,396	58,268	47,323	28,593	10,890	18,432
Kansas	2,752	1,028	29,395	14,341	8,528	18,670
Kentucky	34,702	28,656	64,027	43,004	173,474	144,857
Michigan	251,065	247,025	99,311	124,094	62,748	59,349
Minnesota	161,073	167,864	115,367	45,223	33,651	32,092
Missouri	34,330	34,414	61,674	62,227	37,915	28,076
Nebraska	14,328	11,862	33,679	13,962	8,625	7,826
North Dakota	47,112	44,336	20,365	13,168	12,197	11,851
Ohio	188,345	192,443	85,696	89,300	107,503	121,633
Oklahoma	3,467	1,256	29,669	11,825	86,300	27,761
South Dakota	31,283	43,684	11,692	11,378	2,474	3,794
Tennessee	10,902	6,966	129,923	59,292	54,118	46,832
Wisconsin	270,388	269,801	133,536	72,527	16,245	24,204
Total	**1,312,854**	**1,320,817**	**1,139,995**	**749,515**	**791,326**	**786,437**
PAD District 3						
Alabama	1,425	1,624	54,318	40,758	41,731	93,129
Arkansas	30	45	49,331	7,814	11,983	15,462
Louisiana	335	371	157,560	169,154	74,891	64,296
Mississippi	86	121	44,911	18,549	39,819	15,803
New Mexico	876	1,465	19,023	17,035	89,176	79,485
Texas	1,634	867	403,367	227,237	411,355	341,168
Total	**4,385**	**4,494**	**728,510**	**480,548**	**668,955**	**609,432**
PAD District 4						
Colorado	4,471*	2,646	28,659	17,030	13,115	17,980
Idaho	26,729	26,616	15,407	11,969	9,977	15,040
Montana	14,540	14,741	36,309	16,926	10,914	21,347
Utah	3,133	3,132	22,758	38,221	28,924	37,248
Wyoming	2,121	1,128	18,508	16,418	31,759	39,056
Total	**50,995**	**48,264**	**121,641**	**100,563**	**94,690**	**130,671**
PAD District 5						
Alaska	55,151	44,716	39,000	35,147	28,878	19,149
Arizona	505	448	20,042	15,991	38,067	38,770
California	6,234	10,059	147,907	237,284	131,205	230,602
Hawaii	13	30	5,711	7,584	2,745	4,526
Nevada	11,957	10,342	13,640	20,679	35,333	22,697
Oregon	99,946	85,852	58,249	56,324	34,983	22,725
Washington	130,306	128,928	179,853	101,559	41,400	42,972
Total	**304,112**	**280,374**	**464,402**	**474,567**	**312,612**	**381,440**
U.S. Total	**7,212,897**	**7,294,814**	**4,514,211**	**4,293,095**	**2,592,687**	**2,684,102**

...By End Use

(Add 000 gal.)

N.B.: In 1985, EIA began publishing two sets of product tables, one for sales, the other for deliveries. Both are based on the same raw data. The sales tables reflect the questionnaire total; the deliveries table are adjustments to correlate them with other industry data. EIA's original objective was to switch to the sales tables and drop the deliveries tables. However, because of statistical disparities, this switch-over has been delayed indefinitely. The data on these pages are the deliveries tables and are compatible with prior NPN Factbook summaries even though the latter were then labelled "sales".

	Oil Company		Farm		Electric Utility	
Destination	1985	1986	1985	1986	1985	1986
PAD District 1						
New England States						
Connecticut	871	500	828	656	2,870	443
Maine	28	87	3,701	3,636	199	495
Massachusetts	1,149	998	1,963	1,912	7,841	7,708
New Hampshire	5	5	1,425	1,502	904	835
Rhode Island	336	263	382	156	602	1,483
Vermont	60	9	5,833	5,744	574	678
Central Atlantic States						
Delaware	513	542	5,946	6,835	2,794	3,435
District of Columbia	148	—	32	—	12,975	21,385
Maryland	2,609	821	19,903	18,717	38,749	46,790
New Jersey	2,329	2,256	11,331	19,661	13,117	56,841
New York	3,942	4,417	50,391	40,734	7,496	70,469
Pennsylvania	13,301	17,948	42,889	34,130	20,599	29,560
Lower Atlantic States						
Florida	2,386	895	86,905	117,634	44,280	48,933
Georgia	354	806	67,026	87,845	1,612	3,927
North Carolina	432	110	51,073	50,195	17,452	13,821
South Carolina	655	860	20,984	20,178	10,061	5,839
Virginia	2,531	1,233	42,888	24,328	12,322	12,520
West Virginia	3,898	11,204	2,542	4,150	17,138	12,312
Total	**32,547**	**42,957**	**416,045**	**438,013**	**211,584**	**337,475**
PAD District 2						
Illinois	20,275	16,500	152,482	184,740	34,545	17,200
Indiana	2,313	1,619	66,394	94,791	12,656	11,895
Iowa	570	63	174,850	215,857	1,506	1,901
Kansas	13,046	10,656	119,451	138,183	3,155	2,531
Kentucky	1,436	781	41,563	35,571	7,297	5,698
Michigan	2,269	5,476	77,359	92,352	33,743	29,831
Minnesota	556	498	136,176	182,360	2,849	5,687
Missouri	402	790	97,693	71,293	4,074	10,758
Nebraska	110	663	151,861	153,030	210	259
North Dakota	4,412	4,939	94,763	105,838	1,937	2,055
Ohio	4,631	18,851	57,998	67,924	21,628	20,101
Oklahoma	73,800	24,537	73,602	47,636	14	320
South Dakota	5	20	64,394	93,749	551	1,001
Tennessee	3,436	2,045	46,064	41,699	8,795	97
Wisconsin	469	427	97,013	93,392	4,600	5,787
Total	**127,728**	**87,866**	**1,451,683**	**1,618,414**	**137,559**	**115,119**
PAD District 3						
Alabama	4,692	3,636	50,618	33,872	7,315	8,836
Arkansas	4,643	4,053	207,144	170,808	5,991	11,887
Louisiana	212,631	233,721	44,618	149,420	4,748	5,686
Mississippi	71,570	31,602	65,442	111,383	1,384	3,100
New Mexico	18,651	16,564	13,641	30,723	925	1,597
Texas	304,537	256,724	331,061	279,621	70,247	17,173
Total	**616,725**	**546,300**	**712,523**	**775,828**	**90,610**	**48,278**
PAD District 4						
Colorado	4,258	7,883	53,037	64,397	6,724	5,039
Idaho	126	172	50,952	58,011	17	424
Montana	1,906	3,093	101,096	48,017	1,225	944
Utah	1,635	2,410	7,263	14,399	2,145	10,375
Wyoming	36,486	18,423	18,332	17,170	6,428	3,689
Total	**44,410**	**31,980**	**230,680**	**201,995**	**16,538**	**20,470**
PAD District 5						
Alaska	3,616	10,516	889	183	12,695	37,152
Arizona	291	179	16,065	29,018	2,424	3,542
California	39,234	27,370	398,788	198,254	7,479	8,777
Hawaii	1,118	663	13,219	12,563	32,029	38,505
Nevada	604	693	9,289	6,612	2,604	3,613
Oregon	2,582	141	32,968	48,106	89	151
Washington	4,651	1,327	29,179	51,059	715	1,278
Total	**52,095**	**40,888**	**500,397**	**347,795**	**58,035**	**93,010**
U.S. Total	**876,505**	**749,992**	**3,311,309**	**3,380,046**	**514,327**	**614,361**

Distillate Deliveries 1986...

(Add 000 gal.)

	Railroad		Vessel Bunkering		On-Highway	
Destination	1985	1986	1985	1986	1985	1986
PAD District 1						
New England States						
Connecticut	1,810	—	1,413	2,690	183,726	179,230
Maine	7,627	10,282	3,016	2,996	125,975	140,312
Massachusetts	47,853	6,011	21,463	51,946	245,057	267,065
New Hampshire	334	1,830	216	334	42,239	50,895
Rhode Island	491	475	1,405	4,439	11,775	44,667
Vermont	1,290	3,059	304	310	38,737	40,202
Central Atlantic States						
Delaware	340	103	552	4,186	50,528	52,855
District of Columbia	7,225	2,848	29	27	20,897	21,413
Maryland	34,984	33,424	20,880	24,517	238,103	274,995
New Jersey	49,327	28,843	67,722	135,508	445,512	450,858
New York	39,542	21,605	6,393	13,507	518,586	614,646
Pennsylvania	64,993	59,823	9,212	26,594	769,798	810,753
Lower Atlantic States						
Florida	63,740	88,036	77,445	116,019	706,762	680,975
Georgia	78,421	70,226	12,541	14,520	664,749	710,528
North Carolina	40,534	64,774	16,608	14,240	512,560	548,890
South Carolina	29,343	31,346	7,794	14,172	293,068	293,541
Virginia	119,239	118,358	32,548	33,115	437,519	468,608
West Virginia	22,096	13,444	125,442	26,522	121,288	132,361
Total	**609,188**	**554,488**	**404,982**	**485,642**	**5,426,879**	**5,782,794**
PAD District 2						
Illinois	162,894	138,398	55,190	57,095	586,969	695,139
Indiana	171,422	194,143	4,133	18,135	693,369	681,413
Iowa	38,330	43,503	1,090	1,531	298,367	288,303
Kansas	167,438	132,889	—	—	260,522	253,237
Kentucky	103,383	99,752	137,027	92,588	329,045	368,109
Michigan	42,816	45,907	5,748	233	454,673	478,218
Minnesota	37,323	48,730	9,075	1,740	289,062	288,389
Missouri	47,207	34,863	54,696	37,805	448,082	472,721
Nebraska	103,158	109,764	47	—	186,417	188,890
North Dakota	32,175	32,804	—	1	93,017	87,289
Ohio	105,203	148,782	772	2,975	831,466	797,685
Oklahoma	55,821	50,590	613	361	387,890	368,795
South Dakota	428	419	—	—	95,079	90,150
Tennessee	92,108	118,134	33,816	73,382	513,316	527,263
Wisconsin	46,635	43,977	8,429	15,650	349,753	364,055
Total	**1,206,344**	**1,242,654**	**310,636**	**301,496**	**5,817,027**	**5,949,656**
PAD District 3						
Alabama	72,325	66,491	37,425	37,112	357,980	368,011
Arkansas	24,088	28,504	11,003	1,381	288,154	295,187
Louisiana	108,706	104,069	413,715	308,847	325,752	349,332
Mississippi	22,073	21,437	49,102	68,456	280,338	287,753
New Mexico	3,975	43,608	—	—	177,728	182,996
Texas	377,311	304,516	187,321	299,698	1,550,477	1,437,192
Total	**608,479**	**568,624**	**698,566**	**715,494**	**2,980,429**	**2,920,471**
PAD District 4						
Colorado	64,664	62,863	981	—	199,169	186,918
Idaho	20,790	20,250	80	114	97,057	98,003
Montana	72,232	66,968	—	—	106,862	105,048
Utah	36,723	35,113	—	—	132,393	139,467
Wyoming	64,417	61,348	—	—	115,572	102,219
Total	**258,826**	**249,542**	**1,061**	**114**	**651,053**	**631,655**
PAD District 5						
Alaska	5,144	2,096	118,258	58,752	106,978	97,190
Arizona	52,700	49,061	—	559	267,552	280,167
California	255,583	241,723	240,241	217,325	1,387,378	1,570,607
Hawaii	303	234	31,938	46,608	18,589	19,618
Nevada	40,386	34,211	—	—	92,782	97,170
Oregon	111,410	106,826	25,598	26,304	243,977	244,854
Washington	61,367	53,158	62,985	181,921	287,006	332,326
Total	**526,982**	**487,308**	**479,020**	**531,469**	**2,404,262**	**2,641,932**
U.S. Total	**3,209,729**	**3,099,616**	**1,894,265**	**2,034,215**	**17,279,650**	**17,926,508**

...By End Use (Continued)

(Add 000 gal.)

Destination	Military		Off-Highway		All Other		Total	
	1985	1986	1985	1986	1985	1986	1985	1986
PAD District 1								
New England States								
Connecticut	298	237	6,632	6,221	89	762	795,359	861,057
Maine	72	180	5,960	9,974	639	5	402,350	481,750
Massachusetts	2,855	2,542	9,511	11,250	882	861	1,365,479	1,457,705
New Hampshire	894	231	7,380	6,778	606	128	220,326	242,117
Rhode Island	32	48	2,535	2,999	43	250	187,185	222,923
Vermont	48	31	3,461	6,005	311	208	175,660	165,589
Central Atlantic States								
Delaware	598	4,963	2,164	2,126	942	93	142,707	137,819
District of Columbia	8,983	11,903	558	197	36	2,921	104,011	119,063
Maryland	16,499	10,976	38,637	22,511	7,127	6,977	749,637	745,363
New Jersey	4,487	1,175	25,412	32,789	4,641	2,874	1,685,142	1,915,470
New York	5,919	1,447	43,487	22,979	4,626	3,294	2,583,539	2,975,734
Pennsylvania	1,621	454	45,147	54,692	2,515	1,840	2,228,166	2,248,217
Lower Atlantic States								
Florida	8,080	30,309	69,020	56,331	496	2,897	1,273,428	1,342,043
Georgia	3,352	6,736	41,087	32,714	3,483	1,630	994,396	1,030,158
North Carolina	3,546	13,728	24,302	27,480	818	39,375	1,043,842	1,158,561
South Carolina	484	4,025	15,312	20,303	914	1,151	496,195	492,066
Virginia	11,770	29,765	26,835	32,150	1,009	3,954	1,061,052	1,194,423
West Virginia	3	32	20,517	26,054	2,966	628	410,702	318,474
Total	**69,541**	**118,781**	**387,956**	**373,553**	**32,173**	**69,849**	**15,919,176**	**17,108,532**
PAD District 2								
Illinois	989	906	27,655	52,348	2,259	8,533	1,371,241	1,473,068
Indiana	1,008	4,437	8,876	13,335	917	1,420	1,290,807	1,333,836
Iowa	774	30	15,152	10,757	107	490	649,354	667,727
Kansas	283	336	20,397	23,203	3,092	1,382	628,059	596,455
Kentucky	137	5,863	19,483	26,983	731	1,194	912,307	853,056
Michigan	10,178	2,235	33,974	33,403	2,381	2,890	1,076,266	1,121,014
Minnesota	556	708	26,285	21,293	5,462	1,558	817,435	796,141
Missouri	2,180	3,375	30,113	13,970	1,989	731	820,356	771,022
Nebraska	428	384	20,026	16,609	67	900	518,957	504,149
North Dakota	3,016	1,405	5,793	6,860	1	15	314,788	310,559
Ohio	239	7,665	80,807	35,128	30,604	1,707	1,514,893	1,504,194
Oklahoma	310	1,838	48,099	39,107	10,744	7,078	770,327	581,104
South Dakota	218	396	3,428	8,925	—	314	209,553	253,832
Tennessee	1,526	1,569	38,501	63,726	4,466	366	936,972	941,370
Wisconsin	2,909	158	14,810	24,476	886	2,212	945,672	916,666
Total	**24,750**	**31,305**	**393,399**	**390,124**	**63,707**	**30,789**	**12,776,938**	**12,624,192**
PAD District 3								
Alabama	3,528	2,558	45,515	38,361	12,001	2,649	688,871	697,038
Arkansas	279	2,944	30,214	30,192	339	231	633,199	568,508
Louisiana	1,303	31,871	61,288	49,815	8,174	3,685	1,413,720	1,470,267
Mississippi	43,866	36,284	49,583	26,960	580	1,905	668,753	623,353
New Mexico	572	1,529	32,383	32,212	589	366	357,541	407,580
Texas	259,107	182,423	97,525	274,751	5,908	1,744	3,999,851	3,623,112
Total	**308,655**	**257,608**	**316,507**	**452,291**	**27,592**	**10,580**	**7,761,936**	**7,389,858**
PAD District 4								
Colorado	2,854	6,595	26,065	49,762	68	4,765	404,066	425,878
Idaho	1,224	1,456	8,268	12,099	4,400	4,251	235,028	248,406
Montana	801	166	129,801	14,725	350	1,995	476,035	293,970
Utah	6,332	4,113	8,415	26,822	235	664	249,955	311,964
Wyoming	475	449	25,230	23,590	3,948	4,783	323,274	288,273
Total	**11,686**	**12,780**	**197,779**	**126,998**	**9,000**	**16,458**	**1,688,358**	**1,568,490**
PAD District 5								
Alaska	15,457	12,647	32,836	15,427	7,938	2,793	426,841	335,767
Arizona	937	1,598	23,053	48,784	405	47	422,040	468,164
California	229,104	232,081	173,877	168,855	26,627	5,163	3,043,656	3,148,100
Hawaii	86,114	61,104	2,527	4,946	202	—	194,508	196,381
Nevada	1,901	2,865	18,174	30,823	1,426	4,460	228,097	234,165
Oregon	1,577	1,067	33,971	32,960	2,653	42	648,002	625,351
Washington	18,457	28,581	36,607	54,491	4,604	480	857,131	978,080
Total	**353,547**	**399,943**	**321,045**	**356,287**	**43,856**	**12,986**	**5,820,276**	**5,986,008**
U.S. Total	**768,179**	**760,417**	**1,616,685**	**1,699,252**	**176,299**	**140,661**	**43,966,734**	**44,677,080**

Source: Energy Information Administration, Petroleum Marketing Monthly, July 1987.

Deliveries of Kerosine in 1986...

(Add 000 gal.)

Destination	Residential 1985	Residential 1986	Commercial 1985	Commercial 1986	Industrial 1985	Industrial 1986
PAD District 1						
New England States						
Connecticut	11,509	9,001	1,216	1,428	520	486
Maine	17,316	13,302	1,878	544	253	45
Massachusetts	10,987	10,660	2,052	6,176	815	415
New Hampshire	16,267	7,523	783	422	29	31
Rhode Island	2,489	3,447	76	86	2	8
Vermont	9,794	6,192	687	1,275	87	59
Central Atlantic States						
Delaware	12,352	6,804	979	360	23	—
District of Columbia	193	237	1,045	6	28	21
Maryland	21,196	17,639	1,703	1,054	176	459
New Jersey	17,264	13,717	1,473	2,305	1,083	1,091
New York	61,275	47,048	16,416	4,863	1,232	408
Pennsylvania	54,312	63,317	6,832	8,399	4,170	5,646
Lower Atlantic States						
Florida	16,443	11,838	19,925	18,056	484	109
Georgia	4,897	4,315	868	1,546	495	463
North Carolina	76,025	70,788	4,661	3,660	4,553	4,952
South Carolina	23,054	21,119	917	1,177	3,272	1,584
Virginia	68,740	52,692	4,068	3,068	1,221	1,007
West Virginia	7,432	9,682	2,449	1,181	2,337	695
Total	**431,546**	**369,320**	**68,026**	**55,604**	**20,780**	**17,480**
PAD District 2						
Illinois	36,288	8,571	6,107	4,146	4,031	3,588
Indiana	29,744	16,664	8,530	5,813	4,270	5,210
Iowa	7,369	3,159	454	79	225	41
Kansas	1,728	781	633	381	104	101
Kentucky	53,245	28,462	5,859	6,327	20,906	8,827
Michigan	27,174	14,668	735	570	2,984	1,833
Minnesota	8,737	3,729	1,524	187	55	34
Missouri	6,061	2,448	2,093	410	914	83
Nebraska	2,564	788	754	339	69	4,255
North Dakota	868	321	4	14	50	18
Ohio	60,113	50,041	28,126	8,037	9,533	3,848
Oklahoma	1,949	382	1,261	232	3,148	1,699
South Dakota	2,233	986	40	37	5	4
Tennessee	47,116	13,959	10,678	3,837	2,940	2,131
Wisconsin	12,462	3,009	1,120	190	205	146
Total	**297,652**	**147,698**	**67,918**	**30,597**	**49,438**	**31,818**
PAD District 3						
Alabama	28,584	36,147	6,183	16,124	2,154	14,986
Arkansas	12,167	14,225	33,074	3,695	8,455	8,318
Louisiana	6,993	8,853	25,707	11,874	24,249	33,638
Mississippi	10,512	21,366	15,308	10,455	5,516	7,014
New Mexico	16,069	11,795	23,981	7,336	24,487	12,649
Texas	44,277	25,990	98,620	99,974	58,376	35,393
Total	**118,602**	**118,376**	**202,872**	**149,458**	**123,237**	**116,998**
PAD District 4						
Colorado	2,333	1,068	735	484	55	91
Idaho	71	180	159	58	55	29
Montana	436	490	14	249	5	-
Utah	452	155	879	207	133	452
Wyoming	384	51	307	38	291	123
Total	**3,675**	**1,944**	**2,093**	**1,035**	**539**	**696**
PAD District 5						
Alaska	47	9	113	68,292	26	1
Arizona	140	45	92	262	475	453
California	3,214	2,515	15,594	1,542	19,487	2,476
Hawaii	—	0	58	40	—	2
Nevada	2,097	583	204	64	32	44
Oregon	1,802	296	1,146	100	30	7
Washington	3,800	685	9,101	711	40,448	8,885
Total	**11,099**	**4,133**	**26,308**	**71,011**	**60,498**	**11,867**
U.S. Total	**862,573**	**641,742**	**367,218**	**307,704**	**254,491**	**173,859**

...By End Use

(Add 000 gal.)

N.B.: In 1985, EIA began publishing two sets of product tables, one for sales, the other for deliveries. Both are based on the same raw data. The sales tables reflect the questionnaire totals; the deliveries tables are adjustments to correlate them with other industry data. EIA's original objective was to switch to the sales tables and drop the deliveries tables. However, because of statistical disparities, this switch-over has been delayed indefinitely. The data on these pages are the deliveries tables and are compatible with prior NPN Factbook summaries even though the latter were then labelled "sales".

Destination	Farm		All Other		Total	
	1985	1986	1985	1986	1985	1986
PAD District 1						
New England States						
Connecticut	63	1	253	1,028	13,560	11,944
Maine	121	273	267	76	19,834	14,240
Massachusetts	5	5	175	345	14,034	17,600
New Hampshire	22	10	68	111	17,170	8,097
Rhode Island	1	0	7	43	2,574	3,583
Vermont	137	312	277	258	10,983	8,097
Central Atlantic States						
Delaware	44	23	16	23	13,413	7,209
District of Columbia	—	—	27	14	1,293	278
Maryland	102	85	555	690	23,731	19,927
New Jersey	33	14	6,876	8,915	26,729	26,043
New York	952	1,022	21,384	11,849	101,260	65,192
Pennsylvania	906	1,787	1,495	2,058	67,715	81,207
Lower Atlantic States						
Florida	107	65	11,203	591	48,163	30,659
Georgia	345	621	390	252	6,995	7,198
North Carolina	4,506	3,633	1,162	901	90,907	83,933
South Carolina	96	478	918	797	28,257	25,154
Virginia	2,261	651	457	2,382	76,747	59,800
West Virginia	334	226	701	720	13,253	12,503
Total	**10,034**	**9,208**	**46,232**	**31,052**	**576,618**	**482,664**
PAD District 2						
Illinois	835	685	948	174	48,209	17,164
Indiana	2,001	2,921	2,131	390	46,676	30,998
Iowa	1,796	1,559	72	43	9,917	4,882
Kansas	1,010	1,002	166	902	3,641	3,167
Kentucky	5,651	2,311	10,622	175	96,282	46,103
Michigan	973	643	518	55	32,384	17,769
Minnesota	1,390	1,151	31	148	11,738	5,248
Missouri	231	31	241	225	9,540	3,197
Nebraska	1,227	1,733	85	17	4,698	7,133
North Dakota	24	322	5	1	951	675
Ohio	3,745	3,467	7,675	995	109,192	66,388
Oklahoma	138	362	809	573	7,304	3,247
South Dakota	308	476	8	5	2,594	1,508
Tennessee	644	91	9,369	225	70,746	20,244
Wisconsin	1,137	686	7	2	14,930	4,032
Total	**21,108**	**17,442**	**32,688**	**3,930**	**468,804**	**231,756**
PAD District 3						
Alabama	490	419	4,968	5,522	42,379	73,198
Arkansas	2,153	1,206	5,635	1,649	61,485	29,093
Louisiana	798	2,047	15,912	71,214	73,659	127,626
Mississippi	1,187	9,201	1,326	270	33,849	48,305
New Mexico	3,240	567	7,281	6,206	75,057	38,553
Texas	10,933	7,338	93,565	214,459	305,772	383,154
Total	**18,801**	**20,779**	**128,687**	**299,320**	**592,200**	**699,930**
PAD District 4						
Colorado	1,254	291	5	321	4,381	2,255
Idaho	51	18	8	6	344	292
Montana	7	52	7	2	469	793
Utah	28	12	—	26	1,492	851
Wyoming	19	22	1	68	1,000	303
Total	**1,358**	**396**	**20**	**423**	**7,686**	**4,494**
PAD District 5						
Alaska	0	0	137	49	322	68,351
Arizona	8	2	9	1	724	762
California	1,980	91	230	108	40,505	6,732
Hawaii	—	0	10	1	68	43
Nevada	5	3	5	14	2,342	708
Oregon	25	15	4	3	3,006	421
Washington	113	12	119	8	53,581	10,302
Total	**2,132**	**123**	**512**	**183**	**100,548**	**87,318**
U.S. Total	**53,434**	**47,948**	**208,139**	**334,908**	**1,745,856**	**1,506,162**

Source: Energy Information Administration, Petroleum Marketing Monthly, July 1987

Residual Fuel Oil Deliveries in 1986...

(Add 000 gal.)

	Commercial		Industrial		Oil Company		Electric Utility	
Destination	1985	1986	1985	1986	1985	1986	1985	1986
PAD District 1								
New England States								
Connecticut	51,059	42,735	65,893	61,826	887	18	858,843	492,896
Maine	31,608	38,903	103,419	184,305	175	14	18,793	172,921
Massachusetts	95,972	91,246	254,382	361,232	—	—	861,009	1,537,091
New Hampshire	2,636	13,900	31,124	52,626	—	—	—	157,651
Rhode Island	16,772	30,396	29,586	30,614	—	—	4,959	44,017
Vermont	718	3,598	2,849	8,937	—	—	—	—
Central Atlantic States								
Delaware	2,142	4,190	19,547	6,065	—	12,524	25,065	51,886
District of Columbia	8,701	26,639	24	—	—	—	—	—
Maryland	7,665	23,105	27,096	23,844	3,540	1,433	169,228	179,662
New Jersey	95,090	72,365	133,733	121,092	13,635	5,150	894,173	925,289
New York	507,016	531,542	166,012	158,769	1,661	1,044	1,411,672	2,051,424
Pennsylvania	42,980	25,192	55,117	101,060	24,348	34,920	342,773	513,833
Lower Atlantic States								
Florida	65,982	74,526	190,317	100,130	156	529	825,493	1,638,824
Georgia	14,231	27,679	314,941	41,221	395	77	757	4,809
North Carolina	9,787	6,414	175,570	157,469	—	1,051	—	5,410
South Carolina	2,421	877	67,721	45,909	86	937	—	7,152
Virginia	13,475	25,981	97,974	99,644	1,076	1,297	74,002	128,130
West Virginia	153	248	22,704	26,701	6,620	4,535	—	19
Total	**968,408**	**1,039,537**	**1,758,007**	**1,581,444**	**52,577**	**63,530**	**5,486,768**	**7,911,014**
PAD District 2								
Illinois	18,033	45,170	51,481	65,546	127,735	95,579	1,025	98,833
Indiana	20,446	12,335	37,062	104,498	137,160	98,794	25	—
Iowa	54	1,958	7,471	23,822	—	—	—	8
Kansas	—	440	2,560	19,061	826	4,472	528	—
Kentucky	40	1,610	16,895	24,006	15,783	11,901	—	—
Michigan	14,444	11,673	101,644	108,530	14,840	10,075	2,228	43,893
Minnesota	11,747	15,579	15,267	61,919	10,036	11,387	8,073	140
Missouri	6,350	6,533	29,187	19,021	—	—	1,262	9,224
Nebraska	—	—	1,697	9,892	—	—	—	—
North Dakota	3,387	3,961	11,353	5,139	11,513	8,693	116	522
Ohio	4,388	8,120	81,504	85,857	17,470	19,075	228	3,515
Oklahoma	—	—	10,668	19,152	410	437	—	—
South Dakota	987	358	849	2,620	—	—	—	—
Tennessee	5,138	6,528	23,232	21,924	—	—	—	—
Wisconsin	5,602	12,798	2,260	29,751	6,077	5,627	—	—
Total	**90,615**	**127,064**	**393,131**	**600,739**	**341,850**	**266,041**	**13,486**	**156,135**
PAD District 3								
Alabama	75,582	171,254	13,998	170,639	63	—	—	1,869
Arkansas	—	1,062	106,908	268,661	—	—	—	639
Louisiana	84,689	70,937	784,870	518,760	2,220	12,916	136,123	172,403
Mississippi	1,584	27,837	13,151	377,768	—	898	1,365	73,925
New Mexico	530	—	114,871	67,879	—	182	327	723
Texas	37,139	75,964	588,647	327,488	98,289	40,600	12,481	129,116
Total	**199,524**	**347,054**	**1,622,445**	**1,731,195**	**100,572**	**54,597**	**150,295**	**378,675**
PAD District 4								
Colorado	216	12,833	7,405	30,793	625	45	—	—
Idaho	5,086	571	12,296	3,005	—	—	—	—
Montana	25,428	6,611	1,100	1,482	—	—	—	68
Utah	9,120	7,514	44,412	21,033	28,411	34,214	—	—
Wyoming	13,946	19,342	1,175	5,036	26,045	6,419	—	—
Total	**53,796**	**46,871**	**66,389**	**61,438**	**55,081**	**40,678**	**—**	**68**
PAD District 5								
Alaska	—	53,499	36,677	84,920	—	7,418	—	474
Arizona	2	—	436	1,237	—	—	—	—
California	502	31,181	39,760	151,451	210,941	297,853	53,660	170,059
Hawaii	296	2,170	2,705	9,103	9,886	23,356	479,458	410,745
Nevada	362	454	1,259	3,108	0	710	—	13,874
Oregon	2,715	10,644	21,034	69,203	1,116	528	—	—
Washington	10,649	4,531	69,519	198,645	3,996	11,324	319	565
Total	**14,527**	**102,479**	**171,389**	**517,667**	**225,940**	**341,188**	**533,436**	**595,717**
U.S. Total	**1,326,870**	**1,663,005**	**4,011,361**	**4,492,393**	**776,019**	**766,034**	**6,183,985**	**9,041,608**

...By End Use

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	Railroad		Vessel Bunkering		Military		All Other		Total	
Destination	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986
PAD District 1										
New England States										
Connecticut	—	—	5,523	392	1,027	1,555	157	—	983,388	599,422
Maine	—	135	840	1,739	—	182	—	—	154,834	398,198
Massachusetts	—	—	9,451	12,392	40,146	11,083	979	86	1,261,940	2,013,131
New Hampshire	—	—	—	27	—	3,756	—	—	33,760	227,959
Rhode Island	—	—	—	164	—	—	—	422	51,318	105,614
Vermont	—	—	—	—	—	—	143	—	3,710	12,535
Central Atlantic States										
Delaware	—	—	9,433	14,875	—	2,646	192	—	56,378	92,186
District of Columbia	—	—	—	—	12,673	6,111	—	—	21,398	32,750
Maryland	—	—	49,647	26,644	17,998	16,828	427	—	275,601	271,516
New Jersey	2,554	—	438,128	375,710	8,234	34,107	128	16,529	1,585,676	1,550,243
New York	—	—	27,760	39,898	12,535	3,248	1,159	892	2,127,815	2,786,818
Pennsylvania	1,143	10	84,504	121,510	1,228	3,127	314	—	552,407	799,652
Lower Atlantic States										
Florida	—	—	273,424	191,014	9,737	33,956	534	1,227	1,365,643	2,040,206
Georgia	—	—	40,889	17,553	90	2,272	758	—	372,060	93,611
North Carolina	—	—	3,788	2,812	217	1,960	1,190	423	190,553	175,540
South Carolina	—	—	23,439	15,007	1,799	3,734	90	—	95,556	73,616
Virginia	—	—	111,520	73,579	42,033	20,357	4,557	—	344,637	348,988
West Virginia	4	—	—	—	—	—	—	—	29,481	31,502
Total	**3,700**	**145**	**1,078,347**	**893,318**	**147,718**	**144,921**	**10,628**	**19,580**	**9,506,154**	**11,653,488**
PAD District 2										
Illinois	48	—	6,816	3,473	336	408	271	17	205,744	309,026
Indiana	23	—	1,128	1,907	39	382	2,031	543	197,914	218,459
Iowa	—	—	—	—	—	—	1,937	—	9,462	25,787
Kansas	—	22	—	—	—	—	88	—	4,002	23,994
Kentucky	—	—	—	—	—	—	—	—	32,718	37,518
Michigan	—	—	1,342	77	3,970	2,429	32	316	138,501	176,992
Minnesota	1,673	298	4,660	1,237	—	—	—	583	51,456	91,144
Missouri	—	—	995	—	711	2,114	133	20	38,638	36,913
Nebraska	—	7	—	—	—	—	1,542	225	3,239	10,124
North Dakota	—	83	—	—	—	—	321	1,268	26,690	19,666
Ohio	—	—	—	166	—	—	11,470	—	115,060	116,734
Oklahoma	—	—	—	—	—	—	9	—	11,088	19,589
South Dakota	—	—	—	—	—	—	—	—	1,836	2,978
Tennessee	—	—	—	—	—	—	—	1,027	28,370	29,479
Wisconsin	—	—	5,191	4,127	—	—	—	—	19,131	52,303
Total	**1,743**	**411**	**20,132**	**10,987**	**5,056**	**5,333**	**17,835**	**3,999**	**883,848**	**1,170,708**
PAD District 3										
Alabama	—	—	64,084	44,430	4,725	—	—	—	158,452	388,192
Arkansas	—	—	—	—	—	—	—	—	106,908	270,362
Louisiana	—	—	707,672	785,142	—	3,116	214,443	4,973	1,930,017	1,568,247
Mississippi	—	—	45,473	57,992	—	—	—	—	61,573	538,420
New Mexico	—	—	—	—	—	—	—	—	115,727	68,784
Texas	—	—	884,970	840,193	279	—	191,448	148,059	1,813,252	1,561,421
Total	**—**	**—**	**1,702,199**	**1,727,757**	**5,004**	**3,116**	**405,891**	**153,033**	**4,185,930**	**4,395,426**
PAD District 4										
Colorado	680	13	0	—	49	—	—	—	8,975	43,685
Idaho	—	—	—	—	—	—	—	—	17,382	3,575
Montana	—	—	—	—	5	—	349	267	26,883	8,427
Utah	—	—	—	—	—	—	—	—	81,942	62,760
Wyoming	40	—	—	—	—	—	1,481	2,921	42,688	33,719
Total	**720**	**13**	**—**	**—**	**54**	**—**	**1,831**	**3,188**	**177,870**	**152,166**
PAD District 5										
Alaska	—	—	947	6,030	—	—	—	62,906	37,623	215,247
Arizona	—	—	—	—	—	—	—	—	438	1,237
California	—	—	2,168,190	1,938,071	26,487	18,444	15,914	38,409	2,515,454	2,645,467
Hawaii	—	—	74,539	82,723	3,137	—	6,536	30,811	576,556	558,908
Nevada	—	—	—	—	—	253	—	154	1,621	18,554
Oregon	—	—	156,147	159,963	24	—	1,749	53	182,785	240,396
Washington	—	—	273,061	468,498	5,438	8,851	19	102	363,000	692,517
Total	**—**	**—**	**2,672,884**	**2,655,285**	**35,085**	**27,548**	**24,217**	**132,441**	**3,677,478**	**4,372,326**
U.S. Total	**6,193**	**569**	**5,473,562**	**5,287,347**	**192,918**	**180,918**	**460,402**	**312,241**	**18,431,280**	**21,744,114**

Source: Energy Information Administration, Petroleum Marketing Monthly, July, 1987.

Distillate Deliveries by Annual Uses

(Add 000 bbl.)

Year	Residential	Commercial	Industrial	Farm	Oil Company	Electric Utilities	Diesel	Other	Total
1986	173,686	102,217	63,907	80,477	17,857	14,628	467,280	143,688	1,063,740
1985	171,736	107,481	61,730	78,841	20,869	12,246	411,420	99,984	1,046,827
1984(a)	164,529	116,729	56,113	70,819	21,623	16,405	439,786	139,173	1,041,217
1983(a)	159,481	112,392	54,030	67,582	21,510	11,744	408,594	131,142	981,926
1982	180,760	75,669	71,340	68,453	29,482	12,134	375,124	164,253	974,864
1981	197,400	78,663	80,216	69,665	29,185	18,192	378,853	180,302	1,032,476
1980	227,261	92,136	86,089	73,615	24,205	31,812	377,136	176,355	1,086,709
1979	270,306	99,723	99,583	84,926	22,043	46,579	392,614	198,600	1,214,374

(a)In 1984, (as it did in 1979), Energy Information Administration revised some of its sampling procedures and adjusted some of the categories to reflect market volumes. Thus the 1984 and 1983 data are estimates and may not be truly comparable to 1982 and the preceding years. Also, see special caveat at the top of the preceding pages.

Residual Deliveries by Annual Uses

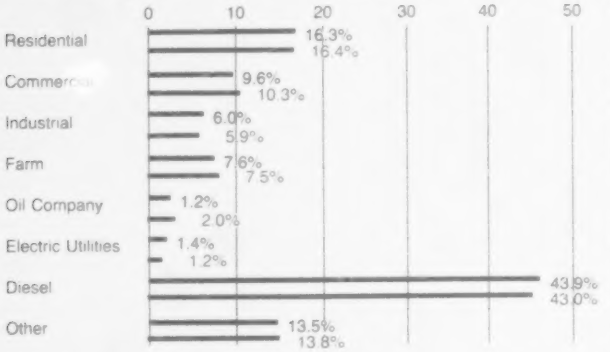
(Add 000 bbl.)

Year	Vessel Bunkering	Electric Utilities	Railroads	Oil Companies	Industrial	Commercial	Military	Other	Total
1986	125,889	215,276	14	18,239	106,962	35,595	4,308	7,434	517,717
1985	130,323	147,381	147	18,477	95,509	31,592	4,593	10,962	438,840
1984(a)	135,408	186,318	43	27,680	94,375	33,777	5,291	18,307	501,199
1983(a)	136,290	204,238	47	28,604	93,624	35,979	5,411	14,412	518,604
1982	152,586	227,419	170	45,319	122,619	65,781	7,829	4,784	626,510
1981	188,632	325,486	178	51,870	117,024	67,035	7,008	4,795	762,030
1980	213,131	390,105	665	59,519	163,564	98,034	8,066	4,382	937,[illegible]
1979	190,543	486,636	245	51,062	198,759	82,729	7,736	16,900	1,034,6[illegible]

(a)See Footnote (a) in distillate summaries above.

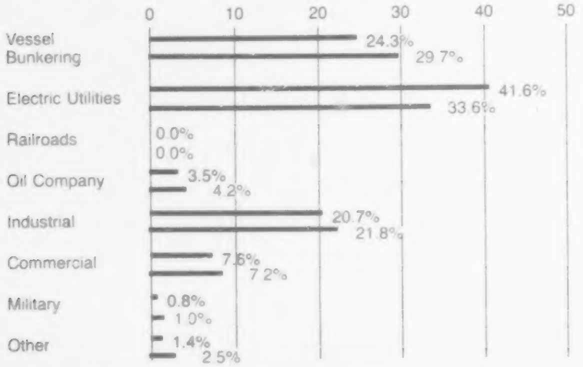
Distillate Deliveries by Use As Percent of Total

1986 = 1,063,740,000 bbl. 1985 = 1,046,827,000 bbl.



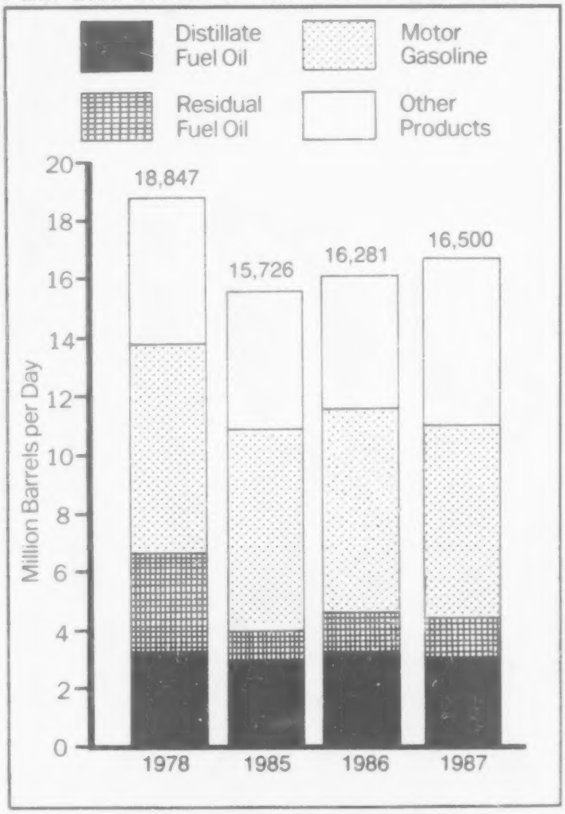
Residual Deliveries by Use As Percent of Total

1986 = 517,717,000 bbl. 1985 = 430,840,000 bbl.



Source: Energy Information Administration, Petroleum Marketing Monthly, July 1987.

Fuel Oil Demand vs. Other Products



N.B.—1978 was peak year of consumption for all products, including distillates and gasoline. Peaks for residual and other products at slightly higher levels came in 1979.

Source: Energy Information Administration data from Monthly Energy Review; Graph by NPN.

Industry Profiles—1987

Average Size of Business

	No. Residential Fuel Oil Accts	No. C/I Customers	Vol. Distillate	Vol. Residual	Vol. Gasoline	No. Employees
New England	1,763	283	2,033,881 gal.	I.D.	2,083,000 gal.	12.7
Mid-Atlantic	1,894	236	2,390,015	I.D.	2,658,333	15.2
South	1,046	117	1,802,860	1,283,333	2,347,727	9.6
Midwest	638	111	1,427,143	343,125	1,833,103	9.4
West	2,688	291	2,577,143	I.D.	1,433,333	12.9
All Sections	**1,606**	**208**	**2,046,208**	**542,153**	**2,071,099**	**12.0**

I.D.—Insufficient Data

Petroleum Products Sold (% of Total Volume)

	No. 2	No. 1	No. 4	No. 5 & 6
New England	79.1%	4.1%	*	*
Mid-Atlantic	60.8	5.2	1.3	0.9
South	46.9	11.8	1.7	3.2
Midwest	42.9	8.7	*	*
West	55.4	1.9	*	1.0
All Sections	**57.0%**	**6.3%**	**0.6%**	**1.0%**

	No. 2 for Diesel	Gasoline	LPG/LNG	Other
New England	5.5%	3.0%	3.4%	0.8%
Mid-Atlantic	12.8	15.3	1.6	*
South	10.3	23.8	*	*
Midwest	17.7	29.5	*	*
West	26.3	16.3	*	*
All Sections	**14.5%**	**17.6%**	**1.0%**	**0.2%**

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*Less than 1%

Percent of Dealers That Sell, Install and Service Equipment

	Residential				
	Oil Burners	Gas Burners	Domestic Hot Water	Boilers	Hydronic Systems
New England	97.5%	10.0%	87.5%	62.5%	75.0%
Mid-Atlantic	100	41.4	79.3	69.0	69.0
South	80.0	80.0	60.0	20.0	40.0
Midwest	90.9	45.4	54.5	45.4	45.4
West	100	22.2	55.6	44.4	22.2
All Sections	**93.7%**	**39.8%**	**67.4%**	**48.3%**	**50.3%**

	Commercial/Industrial				
	Oil Burners	Gas Burners	Domestic Hot Water	Boilers	Hydronic Systems
New England	72.5%	25.0%	52.5%	42.5%	30.0%
Mid-Atlantic	72.4	34.5	51.7	62.1	44.8
South	60.0	20.0	10.0	10.0	10.0
Midwest	63.6	27.3	18.2	9.1	9.1
West	55.6	33.3	22.2	44.4	22.2
All Sections	**64.8%**	**28.0%**	**30.9%**	**33.6%**	**23.2%**

The Service Department—A Bird's Eye View

	Have Service Depts.	Average No. Calls per Year	Value of Parts/Inventory	Service Dept. Profitable	No. of Technicians	No. of Service Vans
New England	87.0%	1,385	$26,132	40.0%	3.8	4.0
Mid-Atlantic	63.6	2,575	18,562	42.9	5.5	5.0
South	45.0	1,134	15,500	55.6	2.5	2.5
Midwest	32.6	742	12,167	60.0	2.3	2.2
West	60.0	1,978	9,300	55.6	3.9	3.6
All Sections	**57.6%**	**1,563**	**$16,332**	**50.8%**	**3.6**	**3.5**

Annual Sales by Types of Customer

(% of total customers served)

	Homes	Apts.	Educ.	Hospitals	Commercial	Industrial
New England	85.0%	3.7%	0.6%	1.7%	5.9%	1.7%
Mid-Atlantic	79.8	4.5	0.6	0.2	10.0	3.7
South	66.3	2.7	1.8	1.5	11.9	9.2
Midwest	79.2	1.4	1.0	1.2	12.3	2.5
West	71.8	4.5	1.0	1.0	17.7	1.0
All Sections	**76.4%**	**3.4%**	**1.0%**	**1.1%**	**11.6%**	**3.6%**

Electronic Data Applications

(% of marketers for listed applications)

	New England	Mid-Atlantic	South	Midwest	West	All Sections
Accounts receivable/billing	100.0%	88.5%	100.0%	89.3%	100.0%	95.6%
General ledger	90.3	76.9	72.7	82.1	90.0	82.4
Accounts payable	77.4	50.0	100.0	53.6	70.0	70.2
Inventory reconciliation	58.1	53.8	35.0	50.0	50.0	49.4
Payroll	51.6	38.5	35.0	50.0	40.0	43.0
Excise tax reporting	38.7	50.0	30.0	21.4	40.0	41.0
Scheduling of deliveries	71.0	57.7	10.0	46.4	40.0	40.0
Fixed asset management	41.9	30.8	25.0	32.1	40.0	34.0
Word processing	35.5	53.8	15.0	7.1	20.0	26.3
Pricing analysis	22.6	34.6	10.0	7.1	30.0	20.9
Tracking supplier costs	12.9	26.9	20.0	14.3	30.0	20.8
Oil price info. services	9.7	7.7	5.0	3.6	10.0	7.2
Communications with stations	6.5	11.5	*	*	20.0	7.6

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*Less than 1%

Trucks per Marketer

	Average No. Del. Trucks	Average No. Trailers	Average Size		Optimum Size Preferred
			Largest	Smallest	
New England	4.2	1.4	3,120	2,337	2,932
Mid-Atlantic	5.5	1.4	3,045	2,385	2,938
South	4.2	1.3	2,800	1,637	2,241
Midwest	2.9	1.8	2,167	1,806	2,127
West	6.1	0.8	3,034	1,800	2,600
All Sections	**4.6**	**1.3**	**2,833**	**1,993**	**2,568**

Truck Tanks by Type

	Use			Prefer	
	Steel	Alum.	Both	Steel	Alum.
New England	19.5%	24.4%	51.2%	19.5%	61.0%
Mid-Atlantic	29.5	25.0	36.4	18.2	63.6
South	60.0	5.0	35.0	35.0	50.0
Midwest	65.0	22.5	12.5	45.0	25.0
West	46.7	13.3	40.0	20.0	53.3
All Sections	**44.1%**	**18.0%**	**35.0%**	**27.5%**	**50.6%**

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*Less than .1%

Engines by Type

	Use			Prefer	
	Diesel	Gas	Both	Diesel	Gas
New England	43.9%	9.8%	46.3%	82.9%	7.3%
Mid-Atlantic	34.1	25.0	40.9	61.4	25.0
South	5.0	40.0	45.0	55.0	30.0
Midwest	13.0	54.3	32.6	37.0	39.1
West	26.7	6.7	66.7	53.3	27.3
All Sections	**24.5%**	**27.2%**	**46.3%**	**57.9%**	**25.7%**

Source: Fuel Oil News, a Hunter Energy-Network Publication.

Average Drop (Gal.)

	275 Gal. Tanks
New England	167.5
Mid-Atlantic	175.7
South	173.6
Midwest	181.8
West	174.8
All Sections	**174.7**

	550 Gal. Tanks
New England	348.1
Mid-Atlantic	350.6
South	355.5
Midwest	356.8
West	354.2
All Sections	**353.0**

% Operating Bulkplants

	% with Bulkplants	% with Bulkplants storing other products
New England	60.9%	60.7%
Mid-Atlantic	70.5	74.2
South	95.0	73.7
Midwest	91.3	78.6
West	66.7	90.0
All Sections	**76.9%**	**75.4%**

% Selling, Installing and Servicing Equipment

New England	89.1%
Mid-Atlantic	59.1
South	25.0
Midwest	34.8
West	46.7
All Sections	**50.9%**

% Losing Customers to Gas

	% Losing Customers	Average No. Cust. Lost
New England	65.8%	8.3
Mid-Atlantic	79.3	44.1
South	30.0	13.4
Midwest	100	7.5
West	46.7	23.4
All Sections	**64.4%**	**19.3**

% Trading on the Futures Market

New England	8.7%
Mid-Atlantic	15.9
South	15.0
Midwest	6.5
West	*
All Sections	**9.2%**

*Less than 1%

Industry Profiles

Average Number of Units Installed in 1987

	Residential			Commercial		
	Burners	Boilers	Furnaces	Burners	Boilers	Furnaces
New England	50.9	29.6	17.3	4.2	3.6	2.5
Mid-Atlantic	52.8	25.0	15.8	14.7	2.9	2.0
South	4.0	1.2	23.0	I.D.	I.D.	I.D.
Midwest	11.6	3.0	27.3	I.D.	I.D.	I.D.
West	70.3	3.2	25.2	9.5	6.0	4.0
All Sections	**37.9**	**12.4**	**21.7**	**9.5**	**4.2**	**2.8**

I.D.—Insufficient Data

Average Storage Capacity

	No. 2	Diesel	Gasoline	Lpg	Kerosene
New England	140,357 gals.	19,750 gals.	19,875 gals.	11,000 gals.	11,000 gals.
Mid Atlantic	188,000	59,800	71,567	12,167	20,455
South	35,447	30,000	31,778	I.D.	21,444
Midwest	48,857	20,000	40,462	42,130	34,600
West	98,000	I.D.	50,778	I.D.	I.D.
All Sections	**102,132 gals.**	**32,388 gals.**	**42,892 gals.**	**21,766 gals.**	**21,625 gals.**

I.D.—Insufficient Data

Average Gasoline Volume Per Station (Percent Reporting Such Capability)

	Less than 50,000/ Month	50-75,000/ Mo.	75-100,000/ Mo.
New England	I.D.	I.D.	I.D.
Mid-Atlantic	37.5%	37.5%	25.0%
South	71.4	28.6	*
Midwest	38.5	38.5	23.1
West	33.3	33.3	33.3
All Sectors	**45.2%**	**34.5%**	**20.4%**

*Less than 1%; I.D. Insufficient data

Percent of Dealers Using Additives

	Percent Using Additives	Blended at Bulkplant	Blended on Trucks	Blended in Customer Tanks
New England	32.6%	33.3%	53.3%	40.0%
Mid-Atlantic	43.2	31.6	57.9	10.5
South	40.0	44.4	*	55.6
Midwest	32.6	86.7	6.7	6.7
West	26.7	50.0	25.0	25.0
All Sections	**35.0%**	**49.2%**	**28.6%**	**27.6%**

*Less than 1%

Services Offered at Retail Outlets Operated by Dealers

	Check Cashing	Auto Service	Fast Food-Deli	TBA	Lottery Tickets	Beer Wine	Bakery Goods	Canned Goods	Cigarettes Soda
New England	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.
Mid-Atlantic	62.5%	25.0%	50.0%	25.0%	37.5%	37.5%	75.0%	62.5%	100%
South	75.0	75.0	75.0	75.0	25.0	50.0	50.0	75.0	100
Midwest	30.8	30.8	61.5	38.5	38.5	46.2	53.8	46.2	61.5
West	50.0	50.0	25.0	50.0	25.0	25.0	25.0	25.0	50.0
All Sectors	**54.6%**	**45.2%**	**52.9%**	**47.1%**	**31.5%**	**39.7%**	**51.0%**	**52.2%**	**77.9%**

*Less than 1%; I.D.—Insufficient data

Source: All data on the three pages dealing with Fuel Oil Profiles, Fuel Oil News, December 1987.

Top 10 Importers of Crude and Product

CRUDE OIL AND PRODUCT

Company	Headquarters	Volume (000 b/d)	% of U.S. Total
Chevron	San Francisco	628	9.65%
Texaco	White Plains, N.Y.	461	7.08
Amerada Hess	New York	299	4.60
Shell	Houston, Tex.	287	4.41
Exxon	Houston, Tex.	280	4.30
Amoco	Chicago	271	4.16
Sun	Philadelphia	244	3.75
Standard Oil	Cleveland	232	3.56
Coastal Corp.	Houston, Tex.	229	3.52
Mobil	New York	229	3.52
Total Top 10		3,160	48.55
Total U.S.		6,509	

DISTILLATES

Company	Headquarters	Volume (000 b/d)	% of U.S. Total
Amerada Hess	New York	51	21.25
Global Petro.	Waltham, Mass.	26	10.83
Clarendon Mktg.	Stamford, Conn.	14	5.83
Wyatt Inc.	New Haven, Conn.	14	5.83
Charter Oil	Jacksonville, Fla.	12	5.00
Northville Indus.	Melville, N.Y.	12	5.00
Transworld Oil	Houston, Tex.	10	4.17
George Warren	New York	10	4.17
Astroline	Long Beach, Calif.	8	3.33
Vitol S.A.	Coral Gables, Fla.	8	3.33
Total Top 10		165	68.75
Total U.S.		240	

CRUDE OIL ONLY

Company	Headquarters	Volume (000 b/d)	% of U.S. Total
Chevron	San Francisco	596	12.85
Texaco	White Plains, N.Y.	414	8.92
Shell	Houston, Tex.	269	5.80
Amoco	Chicago	258	5.56
Standard Oil	Cleveland	231	4.98
Exxon	Houston, Tex.	200	4.31
Mobil	New York	198	4.27
U.S. Steel	Pittsburgh, Pa.	189	4.07
Citgo	Tulsa, Okla.	179	3.86
Sun	Philadelphia	179	3.86
Total Top 10		2,713	58.48
Total U.S.		4,639	

RESIDUAL

Company	Headquarters	Volume (000 b/d)	% of U.S. Total
Amerada Hess	New York	121	21.88
Coastal Corp.	Houston, Tex.	76	13.74
Clarendon Mktg.	Stamford, Conn.	45	8.14
Sun	Philadelphia	33	5.97
Charter Oil	Jacksonville, Fla.	28	5.06
BP/Nor. America	New York	27	4.88
Scallop Petro.	New York	25	4.52
Clark Oil Trdg.	St. Louis, Mo.	20	3.62
Chevron	San Francisco	19	3.44
Carey Energy	New York	13	2.35
Total Top 10		407	73.60
Total U.S.		553	

FINISHED MOTOR GASOLINE

Company	Headquarters	Volume (000 b/d)	% of U.S. Total
Amerada Hess	New York	42	9.84
Clarendon Mktg.	Stamford, Conn.	37	8.67
Vitol S.A.	Coral Gables, Fla.	32	7.49
Northville Indus.	Melville, N.Y.	31	7.26
Getty Petro.	Jericho, N.Y.	26	6.09
Coastal Corp.	Houston, Tex.	25	5.85%
Mobil	New York	23	5.39
Langham-Hill	Charlottesville, Va.	19	4.45
Bear Stearns	New York	16	3.75
Texaco	White Plains, N.Y.	15	3.51
Total Top 10		266	62.30
Total U.S.		427	

JET FUELS

Company	Headquarters	Volume (000 b/d)	% of U.S. Total
Amerada Hess	New York	13	37.14
Texaco	White Plains, N.Y.	7	20.00
Mobil	New York	6	17.14
Western Petro.	Los Angeles	3	8.57
Defense Fuel Sup. Ctr.	Washington, D.C.	2	5.71
Chevron	San Francisco	1	2.86
Pacific Fuel Trdg.	Los Angeles	1	2.86
PanAm World A'ways	New York	1	2.86
Shell	Houston, Tex.	1	2.86
Astroline	Long Beach, Calif.	*	*
Total Top 10		35	100.0
Total U.S.		35	

*Less than 1,000 b/d.

Source: Energy Information Administration, Petroleum Supply Monthly.

U.S. Dependency on Crude and Product Imports

Net (imports minus exports) in thousands of b/d

	Net imports						Net imports as % of U.S. Petroleum products supplied		
	Total from All countries	From Arab OPEC Members	% from Arab OPEC	From all OPEC Members	% from All OPEC	U.S. Petroleum Products Supplied	Total from All countries	From Arab OPEC Members	From all OPEC Members
1987 Average	5,767	1,253	21.7%	2,986	51.8%	16,556	34.8%	7.6%	18.0%
1st Qtr.	5,042	1,067	21.2	2,551	50.6	16,334	30.8	6.5	15.6
2nd Qtr.	5,414	955	17.6	2,669	49.3	16,426	33.0	5.8	16.2
3rd Qtr.	6,571	1,478	22.5	3,540	53.9	16,619	39.5	8.9	21.3
4th Qtr.	6,023	1,505	25.0	3,172	52.7	16,830	35.8	8.9	18.8
1986 Average	5,439	1,160	21.3	2,828	52.0	16,281	33.4	7.1	17.4
1st Qtr.	4,177	845	20.2	2,086	49.9	16,183	25.8	5.2	12.9
2nd Qtr.	5,493	1,131	20.6	2,766	50.4	15,996	34.3	7.1	17.3
3rd Qtr.	6,310	1,359	21.5	3,337	52.9	16,282	38.8	8.3	20.5
4th Qtr.	5,749	1,300	22.6	3,105	54.0	16,656	34.5	7.8	18.6
1985 Average	4,286	470	11.0	1,821	42.5	15,726	27.3	3.0	11.6
1984 Average	4,715	817	17.3	2,037	43.2	15,726	30.0	5.2	13.0
1983 Average	4,312	630	14.6	1,843	42.7	15,231	28.3	4.1	12.1
1982 Average	4,298	852	19.8	2,136	49.7	15,296	28.1	5.6	14.0
1981 Average	5,401	1,844	34.1	3,315	61.4	16,058	33.6	11.5	20.6
1980 Average	6,385	2,549	39.9	4,293	67.2	17,056	37.3	14.9	25.2
1979 Average	7,985	3,054	38.2	5,633	70.5	18,513	43.1	16.5	30.4
1978 Average	8,002	2,962	37.0	5,747	71.8	18,847	42.5	15.7	30.5
1977 Average	8,565	3,184	37.2	6,190	72.3	18,431	46.5	17.3	33.6
1976 Average	7,090	2,423	34.2	5,063	71.4	17,461	40.6	13.9	29.0
1975 Average	5,846	1,382	23.6	3,599	61.2	16,322	35.8	8.5	22.0
1974 Average	5,892	752	12.8	3,277	55.6	16,653	35.4	4.5	19.7
1973 Average	6,025	914	15.2	2,991	49.6	17,038	34.8	5.3	17.3

Source: Energy Information Administration, Monthly Energy Review, December 1987, published April 1988.

Role of Imports in Domestic Demand

(Add 000 bbl.)

	Total Imports			Domestic Demand for Refined Products			
	Total(a)	b/d Avg.	% Change	Total	b/d Avg.	% Change	Imports as % of U.S. Demand
1987(b)	2,389,655	6,547	5.2%	6,024,325	16,505	1.4%	39.7%
1986	2,271,760	6,224	22.8	5,942,565	16,281	3.5	38.2
1985	1,849,455	5,067	(6.8)	5,739,990	15,726	—	32.2
1984	1,984,505	5,437	7.6	5,739,990	15,726	3.2	34.6
1983	1,843,615	5,051	(1.2)	5,559,315	15,231	(.04)	33.2
1982	1,866,245	5,113	(14.7)	5,583,040	15,296	(4.7)	33.4
1981	2,188,540	5,996	(13.2)	5,861,170	16,058	(5.9)	37.3
1980	2,521,785	6,909	(18.3)	6,225,440	17,056	(7.9)	40.5
1979	3,086,440	8,456	1.1	6,757,245	18,513	(1.8)	45.7
1977 (peak year)	3,214,555	8,807	20.1	6,727,315	18,431	5.3	47.8
1975	2,210,335	6,056	(0.9)	5,957,515	16,322	(2.0)	37.1
1973	2,283,493	6,256	32.0	6,317,303	17,308	5.7	36.1
1971	1,432,880	3,926	14.8	5,552,560	15,212	3.5	25.8
1970	1,248,062	3,419	8.0	5,364,473	14,697	4.0	23.3
1965	900,772	2,468	9.3	4,202,039	11,512	4.4	21.4
1960	664,111	1,815	2.0	3,585,820	9,797	2.8	18.5
1955	455,564	1,248	18.6	3,089,348	8,464	9.0	14.7
1950	310,261	850	31.8	2,392,974	6,556	13.0	13.0

(a) Crude oil and products but not crude for Strategic Petroleum Reserve; (b) Preliminary. Special note: Data for 1977 through 1985 are restated to reflect EIA information rather than other sources used in 1984.

Source: American Petroleum Institute, Basic Petroleum Data Book for 1950 through 1976; Energy Information Administration, Monthly Energy Review for 1977 through 1987.

Petroleum Products Imported

(Thousands of b/d)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1987												
Total Motor Gasoline	401	366	402	393	380	412	511	459	429	445	538	383
Leaded	27	22	34	10	21	37	69	22	51	26	75	27
Unleaded	293	281	309	352	327	348	378	338	332	322	399	291
Blending Components	81	63	59	30	32	27	63	98	46	97	64	65
Jet Fuel	33	60	55	40	26	31	34	22	45	22	31	22
Distillate Fuel Oil	197	229	251	185	201	248	378	215	217	222	180	354
Residual Fuel Oil	667	612	552	541	498	477	680	511	513	380	546	664
Other Petroleum Products(a)	502	687	616	557	570	733	585	657	762	711	671	711
1986												
Total Motor Gasoline	375	402	254	412	569	482	397	400	376	402	331	379
Leaded	57	77	27	71	147	81	37	30	46	49	49	37
Unleaded	276	257	197	220	324	311	300	273	257	273	231	282
Blending Components	43	68	30	121	99	90	59	97	73	80	52	59
Jet Fuel	27	35	29	43	54	85	121	85	60	38	59	48
Distillate Fuel Oil	325	169	217	147	149	169	313	370	262	243	254	339
Residual Fuel Oil	622	604	626	545	675	712	673	793	641	635	574	913
Other Petroleum Products(a)	751	498	597	607	703	765	711	661	720	691	759	610
1985												
Total Motor Gasoline	254	455	556	563	569	437	505	365	354	380	475	459
Leaded	75	109	215	177	133	197	75	57	62	132	109	145
Unleaded	128	239	266	317	347	200	351	248	252	192	301	241
Blending Components	50	107	75	69	89	41	79	60	40	56	64	73
Jet Fuel	68	38	47	17	30	35	51	13	34	55	42	37
Distillate Fuel Oil	272	143	156	253	197	152	95	81	222	262	280	287
Residual Fuel Oil	568	580	477	383	394	400	437	424	617	541	627	681
Other Petroleum Products(a)	538	591	651	698	856	717	659	720	587	645	693	671

(a) Includes kerosine, unfinished oils, motor gasoline blending components, liquefied petroleum gas and other oils.

Source: Energy Information Administration, Weekly Status Reports.

Crude and Product Imports by PAD (a) . . .

(Add 000 b/d)

	1987	% Chng. '87 vs. '86	1986	1985	1984	1983

PAD 1*
Net crude imports: 1,109,300 b/d.
Net product imports: 1,316,500 b/d.
Major Sources: Venezuela, Virgin Islands, Nigeria, United Kingdom
Leading importers: Amerada Hess, Texaco, Sun, Chevron

	1987	% Chng. '87 vs. '86	1986	1985	1984	1983
Finished gasoline	325	29%	251	298	254	214
Blending Components	40	—	43	48	46	14
Unfinished Oils	106	29%	82	64	54	88
Liquefied Petro. gases	38	—	36	24	19	12
Distillates	226	5%	216	177	251	154
Residual	516	(13%)	593	449	598	609
Other products	90	(2%)	92	99	122	67
Total products	1,335	13%	1,312	1,159	1,345	1,157
Crude oil	1,109	5%	1,056	977	944	817
Total crude oil and products	2,444	3%	2,368	2,137	2,289	1,974

*PAD 1 includes Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, West Virginia, Virginia, North and South Carolina, Georgia and Florida.

PAD 2*
Net crude imports: 841,690 b/d.
Net product imports: 75,920 b/d.
Major sources: Canada, Nigeria, Saudi Arabia and Mexico.
Leading importers: Koch, Ashland, Shell, Apex.

Finished gasoline	4	(2%)	5	12	4	6
Blending components	14	130%	1	(s)	(s)	4
Unfinished Oils	32	320%	0	8	10	11
Liquefied Petro. gases	76	(7%)	82	119	134	133
Distillates	8	—	8	7	8	8
Residual	6	50%	4	2	6	15
Other products	8	13%	7	8	15	5
Total products	101	(6%)	107	157	177	181
Crude oil	860	10%	781	590	499	530
Total crude oil and products	961	8%	888	746	676	711

*PAD 2 includes North and South Dakota, Nebraska, Kansas, Oklahoma, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, Ohio, Kentucky and Tennessee. (s) Less than 500 b/d.

PAD 3*
Net crude imports: 2,417,400 b/d.
Net product imports: 82,490 b/d.
Major Sources: Saudi Arabia, Mexico, Venezuela and Nigeria.
Leading importers: Chevron, Texaco, USX, Arco.

Finished gasoline	15	114%	7	20	18	4
Blending components	7	(2%)	9	6	13	11
Unfinished oils	169	11%	152	243	153	129
Liquefied Petro. gases	53	(85%)	98	18	13	19
Distillates	6	500%	1	2	3	6
Residual	25	(24%)	33	45	64	54
Other products	96	2%	94	74	90	43
Total products	372	(5%)	393	409	354	266
Crude oil	2,419	19%	2,037	1,419	1,747	1,734
Total crude oil and products	2,789	15%	2,430	1,827	2,101	2,000

*PAD 3 includes Alabama, Mississippi, Arkansas, Louisiana, Texas and New Mexico.

(a)The summaries at the top of each PAD are net figures for 1987, i.e. imports minus exports; the rest of the figures are total imports.

(Add 000 b/d)

PAD 4*

Net crude imports: 63,764 b/d.
Net product imports: 18,597 b/d.
Major source: Canada
Leading importers: Du Pont, Cenex, Exxon, Flying J.

	1987	% Chng. '87 vs. '86	1986	1985	1984	1983
Finished gasoline	19	850%	2	2	2	1
Blending components	0	—	(s)	0	0	(s)
Unfinished oils	0	—	0	0	0	2
Liquefied Petro. gases	12	—	12	15	15	12
Distillates	2	(33%)	2	4	4	1
Residual	0	—	(s)	(s)	(s)	1
Other products	2	(60%)	5	4	4	3
Total products	19	(10%)	21	25	24	21
Crude oil	64	19%	54	39	33	38
Total crude oil and products	83	11%	75	64	58	59

*PAD 4 includes Montana, Idaho, Wyoming, Utah and Colorado; (s) Less than 500 b/d.

PAD 5*

Net crude imports: 53,159 b/d.
Net product exports: 210,753 b/d.
Major sources: Indonesia, Canada, People's Republic of China.
Leading importers: Chevron, Shell, Pacific, Unocal.

	1987	% Chng. '87 vs. '86	1986	1985	1984	1983
Finished gasoline	21	(34%)	32	48	21	22
Blending components	14	(7%)	15	12	23	18
Unfinished oils	4	(20%)	5	2	13	5
Liquefied Petro. gases	9	31%	13	10	14	14
Distillates	3	(63%)	8	10	6	5
Residual	7	(65%)	20	13	13	21
Other products	14	(89%)	23	19	20	12
Total products	75	(36%)	117	116	111	97
Crude oil	189	4%	182	177	203	210
Total crude oil and products	264	(12%)	299	293	313	307

*PAD 5 includes Arizona, Nevada, California, Oregon, Washington, Alaska and Hawaii.

ALL PADS—U.S. Totals.

Net crude imports: 4,485,301 b/d.
Net product imports: 1,282,148 b/d.
Major sources } see related PAD tables in this section
Leading importers }

	1987	% Chng. '87 vs. '86	1986	1985	1984	1983
Finished gasoline	366	24	296	381	299	247
Blending components	61	(10)	68	67	83	47
Unfinished oils	280	17	239	318	231	234
Liquefied Petro. gases	181	(25)	241	187	195	190
Distillates	239	2	235	200	272	174
Residual	553	(15)	650	510	681	699
Other products	210	(5)	221	204	2,511	130
Total products	1,901	(3)	1,950	1,866	2,011	1,722
Crude oil	4,639	13	4,111	3,201	3,426	3,329
Total crude oil and products	6,541	8	6,061	5,067	5,437	5,051

(a) The summaries at the top of each PAD are net figures for 1987, i.e. imports minus exports; the rest of the figures are total imports.
Source: Energy Information Administration, Petroleum Supply Monthly, December 1987, published March 1988

World Oil Production by Area

(Add 000 bbl.)

Year	United States	Canada	Latin America	Western Europe	Middle East	Africa	Asia-Pacific	Total Free World	Communist Nations	Total World
1987	—	—	—	—	—	—	—	—	—	—
1986	3,168,252	537,280	2,190,000	1,395,030	4,639,150	1,819,890	1,176,760	14,926,362	5,402,730	20,329,092
1985	3,274,553	531,805	2,284,900	1,369,480	3,761,235	1,722,075	1,142,450	14 136,588	5,352,360	19,488,948
1984	3,249,696	516,426	2,315,682	1,331,874	4,128,114	1,713,978	1,164,978	14,420,748	5,332,620	19,753,368
1983	3,170,999	494,940	2,205,505	1,236,630	4,215,750	1,609,650	1,024,555	13,956,019	5,241,400	19,197,419
1982	3,156,715	452,965	2,255,355	1,085,145	4,581,480	1,622,790	961,410	14,116,160	5,278,995	19,395,155
1981	3,128,624	469,025	2,179,415	955,570	5,749,480	1,672,065	1,027,110	15,181,445	5,192,125	20,376,699
1980	3,146,365	521,184	2,036,058	893,406	6,735,498	2,226,378	1,000,278	16,559,304	5,206,350	21,760,880
1979	3,121,310	546,040	1,919,535	828,550	7,868,670	2,423,600	1,051,200	17,752,140	5,118,030	22,876,935
1978	3,175,927	483,260	1,736,427	643,149	7,884,927	2,233,791	1,037,520	17,195,001	4,963,250	22,158,251

Source: American Petroleum Institute Data Book, January 1988

World Crude Oil Reserves by Area

(Add 000 bbl.)

Year (a)	United States	Canada	Latin America	Middle East	Africa	Asia-Pacific	Western Europe	Total Free World	Communist Nations	Total World
1987	24,560,000	6,850,000	88,755,300	401,878,700	55,194,100	19,023,500	21,938,100	618,199,600	79,250,000	697,449,600
1986	28,416,000	6,500,000	84,242,400	398,075,710	56,734,050	18,885,800	26,412,600	619,196,500	81,370,000	700,566,560
1985	28,446,000	7,075,000	83,315,700	398,380,750	55,540,550	18,529,900	24,425,500	615,713,400	84,100,000	699,813,400
1984	27,735,000	6,730,000	81,675,900	370,100,800	56,970,000	18,969,400	23,019,940	585,137,600	84,600,000	669,737,600
1983	29,785,000	7,020,000	74,482,066	369,285,893	57,821,690	19,756,077	22,923,680	583,147,406	85,115,000	668,262,406
1982	29,426,000	7,300,000	64,982,270	362,839,950	56,171,630	19,150,800	24,634,500	584,505,150	85,845,000	670,350,150
1981	29,805,000	6,400,000	69,489,837	362,071,000	55,148,375	19,630,500	23,085,000	565,629,712	86,300,000	651,929,712
1980	27,051,289	6,800,000	56,472,500	361,947,300	57,072,100	19,355,200	23,476,400	522,174,789	90,000,000	642,174,789
1979	27,803,760	6,860,000	41,246,500	369,996,000	57,892,125	20,007,200	23,966,000	547,771,585	94,000,000	641,771,585

(a) As of Jan. 1 of each year.
Source: American Petroluem Institute Data Book, January 1988.

World Crude Oil Refining Capacity by Area

(barrels per day)

Year	United States	Other Western Hemisphere	Total Western Hemisphere	Middle East	Africa	Asia-Pacific	Europe	Total Free World	Sino Soviet Bloc	Total World
1987	—	—	—	—	—	—	—	—	—	—
1986	15,458,946	8,613,690	24,072,639	4,274,255	2,520,403	10,111,652	14,071,507	55,050,453	17,500,000	72,550,453
1985	15,658,769	9,457,706	24,857,706	4,052,673	2,447,156	10,393,562	15,654,622	57,664,488	17,500,000	75,164,488
1984	16,137,141	9,590,962	25,520,962	3,901,082	1,879,990	10,473,079	16,231,932	58,114,186	17,200,000	75,314,186
1983	16,859,337	9,873,616	26,773,153	3,685,333	1,822,105	10,902,204	17,124,989	60,327,784	16,873,000	77,200,784
1982	17,889,734	10,720,055	28,609,789	3,312,152	1,761,870	10,966,825	19,444,519	64,095,155	16,533,000	80,628,155
1981	18,620,520	10,716,881	29,337,401	3,729,646	1,697,658	10,554,691	20,205,799	65,524,895	16,036,500	81,561,395
1980	17,988,121	10,683,671	28,671,792	3,518,080	1,666,108	10,386,375	20,243,747	64,486,102	15,346,000	79,832,102
1979	17,440,885	10,273,030	27,713,915	3,546,029	1,667,608	10,284,966	20,328,614	63,541,132	14,748,000	78,289,132

Source: American Petroleum Institute Data Book, January 1988.

World Natural Gas Production by Area

(Add 000,000 cubic feet)

Year	United States	Canada	Latin America	Middle East	Africa	Asia-Pacific	Western Europe	Total Free World	Communist Nations	Total World
1986	—	—	—	—	—	—	—	—	—	—
1985	17,197,999	3,196,300	3,445,300	1,668,300	1,720,700	2,924,500	6,827,200	36,990,299	25,453,400	62,443,699
1984	18,299,638	2,651,800	3,451,800	1,533,400	1,629,100	2,530,700	6,795,400	36,821,838	23,272,100	60,093,938
1983	16,822,144	2,414,100	3,340,500	1,633,000	1,143,800	2,187,700	6,383,400	33,924,644	21,383,000	55,307,644
1982	18,519,675	2,546,100	3,091,500	1,799,700	1,168,900	2,176,600	6,142,100	35,424,575	20,258,000	55,682,575
1981	19,955,823	2,623,000	3,227,000	1,542,000	1,947,000	2,765,000	6,906,000	39,187,701	19,210,000	58,397,701
1980	20,179,724	2,668,300	3,297,500	1,221,300	884,700	2,558,400	6,668,700	37,677,687	21,069,900	58,747,587
1979	20,471,260	3,646,500	2,610,000	1,624,700	1,027,900	1,827,900	6,866,800	38,075,060	19,591,400	57,666,460
1978	19,974,033	3,128,056	2,012,912	1,579,478	1,117,416	1,469,154	6,649,855	35,930,904	15,818,398	51,749,302

Source: American Petroleum Institute Data Book, January 1988.

Crude Oil Reserves in 20 Leading Nations

(Annually as of Jan. 1)

Nation	Reserves (Add 000 bbl.)		% of Free World Reserves		% of Total World Reserves	
	1987	1986	1987	1986	1987	1986
Saudi Arabia(a)	166,573,900	169,000,000	26.9%	27.3%	23.9%	24.1%
Kuwait(a)	91,916,000	89,774,000	14.9	14.2	13.2	12.5
U.S.S.R.	59,000,000	61,000,000		—	8.5	8.7
Mexico	54,653,000	49,300,000	8.8	9.9	7.8	6.9
Iran	48,800,000	47,876,000	7.9	7.7	7.0	6.8
Iraq	47,100,000	44,110,000	7.6	7.1	6.8	6.3
Abu Dhabi	31,000,000	31,000,000	5.0	5.0	4.4	4.4
Venezuela	25,000,000	25,591,000	4.0	4.1	3.6	3.7
United States	24,560,000	28,416,000	4.0	4.6	3.5	4.1
Libya	21,300,000	21,300,000	3.4	3.4	3.1	3.0
China	18,400,000	18,420,000	3.0	3.0	2.6	2.6
Nigeria	16,000,000	16,600,000	2.6	2.7	2.3	2.3
Norway	10,500,000	10,900,000	1.7	1.8	1.5	1.6
United Kingdom	9,000,000	13,000,000	1.5	2.1	1.3	1.9
Algeria	8,800,000	8,820,000	1.4	1.4	1.3	1.3
Indonesia	8,300,000	8,850,000	1.3	1.4	1.2	1.3
Canada	6,850,000	6,500,000	1.1	1.0	1.0	0.9
India	4,202,000	3,736,000	0.7	0.6	0.6	0.5
Oman	4,032,000	4,000,000	0.7	0.6	0.6	0.6
Egypt	3,600,000	3,850,000	0.6	0.6	0.5	0.6
Total Free World	**618,199,600**					
Total World	**697,449,600**					

(a) Saudi Arabia and Kuwait share the reserves in the Neutral Zone: these data are not included in their totals, however.
Source: American Petroleum Institute, Basic Data Book, Vol. 3, No. 3, September 1987; percentage relationships by NPN.

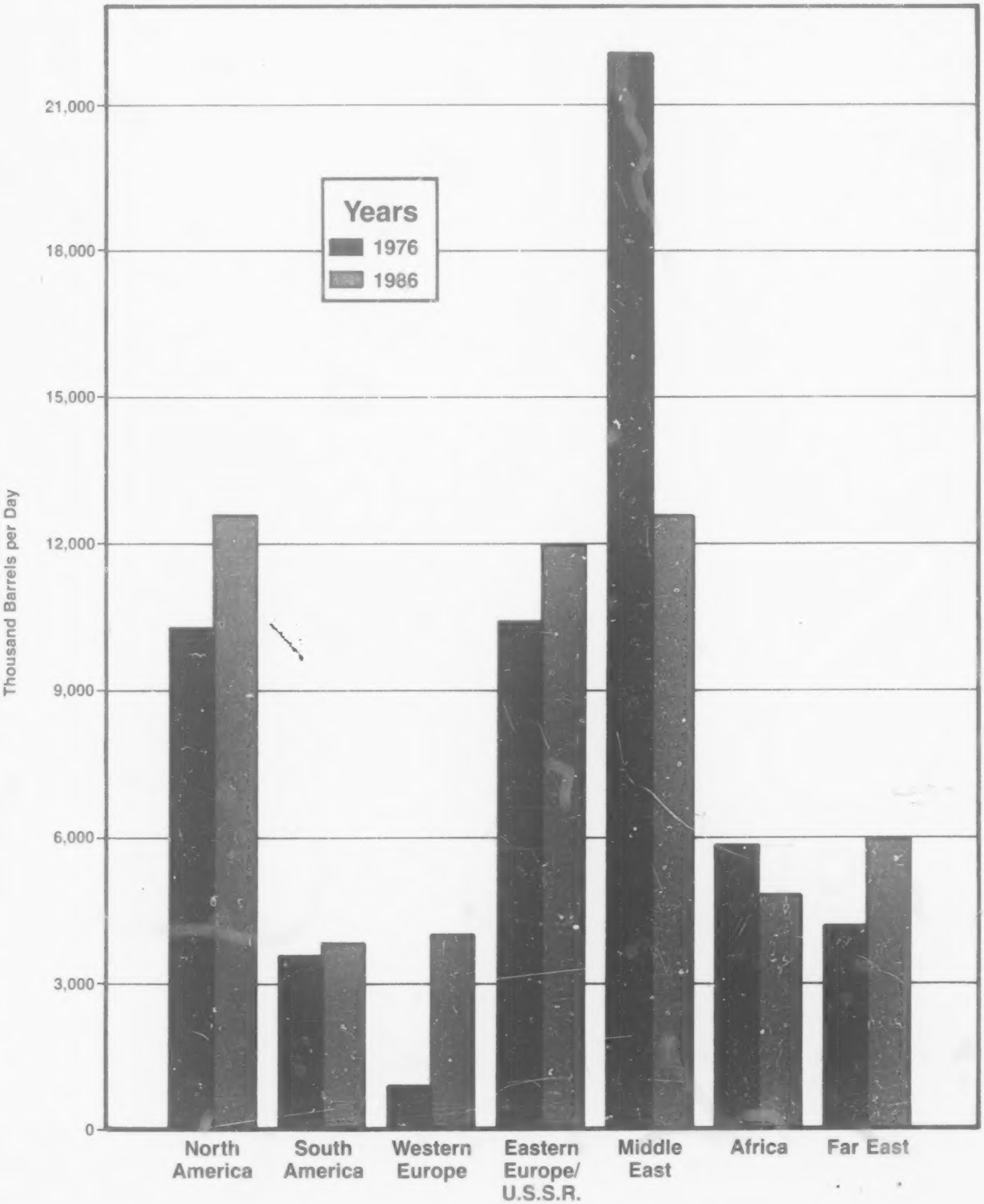
Crude Oil Production in 20 Leading Nations

(Annually as of Jan. 1)

Nation	Production (Add 000 bbl. and b/d)				% of Free World Production		% of Total World Production	
	1986		1985					
	Total	b/d	Total	b/d	1986	1985	1986	1985
U.S.S.R.	4,290,210	11,754	4,288,385	11,749	28.7%	—	21.1%	22.0%
United States(a)	3,168,252	8,680	3,274,553	8,971	22.2	23.2%	15.6	16.8
Saudi Arabia(b)	1,795,000	4,918	1,200,850	3,290	12.0	8.5	8.8	6.2
China	953,745	2,613	911,040	2,496	6.4	6.4	4.7	6.4
United Kingdom	915,420	2,508	924,545	2,533	6.1	6.5	4.5	4.7
Mexico	887,315	2,431	997,545	2,733	5.9	6.9	4.4	5.1
Iran	710,290	1,946	824,170	2,258	4.8	5.8	3.5	5.8
Iraq	626,340	1,716	524,505	1,437	4.2	3.7	3.1	3.7
Venezuela	575,240	1,576	591,665	1,621	3.9	4.2	2.8	4.2
Canada	537,280	1,472	531,805	1,457	3.6	3.8	2.6	3.8
Nigeria	533,265	1,461	534,360	1,464	3.6	3.8	2.6	3.8
Kuwait(b)	490,650	1,344	314,630	862	3.3	2.2	2.4	2.2
United Arab Emirates	485,815	1,331	418,290	1,146	3.3	3.0	2.3	3.0
Indonesia	461,360	1,264	450,775	1,235	3.1	3.2	2.3	3.2
Libya	415,005	1,137	390,185	1,069	2.8	2.8	2.0	2.8
Norway	306,965	841	286,525	785	2.1	2.0	1.5	2.0
Egypt	296,745	813	319,010	874	2.0	2.3	1.3	2.3
Algeria	244,915	671	235,425	645	1.6	1.7	1.2	1.7
India	228,125	625	224,475	615	1.5	1.6	1.1	1.6
Brazil	209,875	575	211,700	580	1.4	1.5	1.0	1.5
Total Free World	**14,926,362**	**40,894**	**14,136,588**	**38,730**	—	—	—	—
Total World	**20,329,092**	**55,696**	**19,488,948**	**53,394**	—	—	—	—

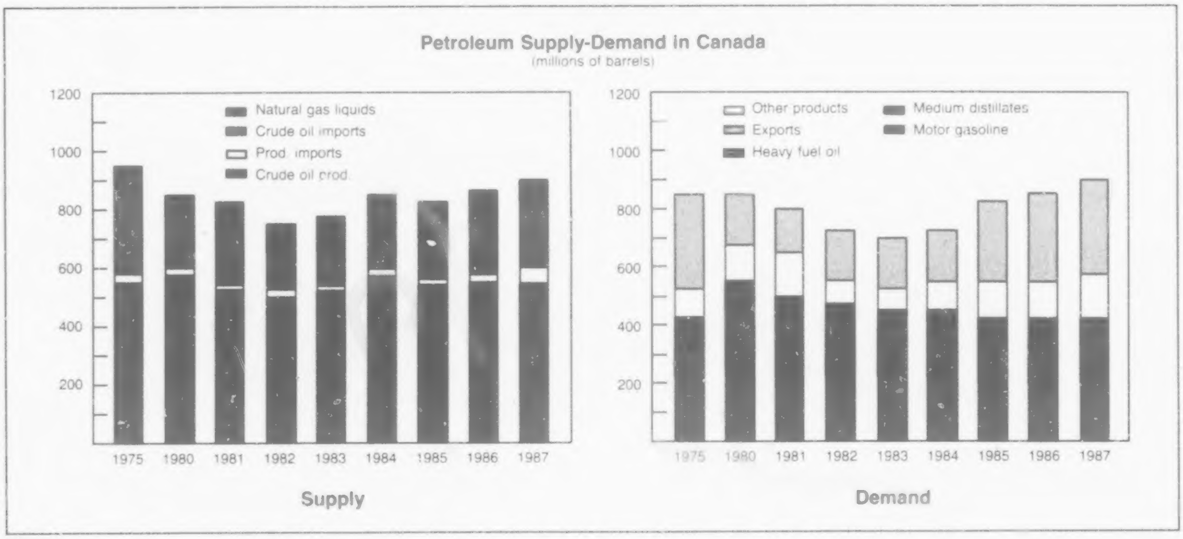
(a) Includes lease condensate; (b) Excludes Neutral Zone production, which Saudi Arabia and Kuwait share.
Source: American Petroleum Institute, Basis Data Book, Vol. 3, No. 3, September 1987; percentage relationships by NPN.

World Crude Oil Production, 1976 and 1986



Source: Energy Information Administration, International Energy Annual 1986, Published October 1987

Canadian Market On Stable Course


Petroleum Supply-Demand in Canada
(millions of barrels)

After some rocky years in the early 1980's, caused in part by government policy, Canada's petroleum industry is showing signs of renewed vigor, if not spectacular performance.

The latest Canadian data from Statistics Canada shows continued improvement in gasoline demand (up almost 5%) and middle distillates (up over 4%) in 1987 as compared to 1986. In the same period, crude oil production increased about 4%. And, although crude and product imports were up almost 15% in 1987, total exports exceeded imports by 19-million bbl. for the year.

Overall, refined product sales (see below), except for light fuels, are keeping pace with Canada's overall industry growth.

Refined Product Sales in 1987

(Cubic Meters)*

	Aviation Gas	Motor Gas	Aviation Turbine	Kerosene	Diesel	Light Fuel	Heavy Fuel	Lubes & Greases
Newfoundland	5,583	556,893	291,434	37,722	445,976	258,987	880,976	11,643
Prince Edward Island	2,611	170,837	5,504	12,445	51,078	137,354	29,560	2,169
Nova Scotia	1,773	1,115,833	168,463	66,398	631,086	816,296	851,415	22.364
New Brunswick	2,903	928,334	29,150	28,658	430,455	431,458	1,309,010	21,532
Quebec	22.412	6,863.148	953,436	175,559	2,651,501	2,110,343	1,634,606	158,087
Ontario	44,010	12,244,631	1,490,447	139,187	4,183,633	1,879,126	1,272,167	508,934
Manitoba	20,470	1,436,826	182,851	27,767	880,620	71,162	65,607	36,024
Alberta	17,825	4,423,910	672,346	34,825	2,731,446	58,513	33,668	116,120
British Columbia	38,629	3,534,507	711,498	59,815	2,365,192	360,192	813.031	103,109
Yukon	3,415	60,561	3,642	14,029	55,828	28,761	0	974
Saskatchewan and Northwest Territories (1)	17,599	1.888.785	149,330	122,475	1,299,040	138.090	62,202	48,414
Total 1987	**177,230**	**33,224,265**	**4,658,101**	**718,880**	**15,725,855**	**6,290,282**	**6,952,242**	**1,029,370**
Total revised 1986	**167,360**	**32,866,264**	**4,373,295**	**759,393**	**14,957,986**	**7,025,232**	**6,332,416**	**966,040**

(1) Combined for confidentiality reasons.
*Cubic meters × 6.2886 = barrels; also 1 barrel equals 42 U.S. gal.
Source: Statistics Canada

Canadian Oil Companies:

Company	Total branded retail outlets	Number of Provinces where marketed	BRANDED SERVICE STATIONS						
			Supplied directly	Supplied through jobbers & commission agents	Lessee/Dealer operated	Salary operated	Commission operated	Full-serve only	Self-serve only
Chevron Canada Ltd.	290	1	—	—	202	88	—	141	100
Esso Petroleum Canada (a)	3,050	12	2,000	1,050	2,650	100	300	2,345	700
Fas Gas Oil Ltd.	86	2	86	0	0	0	86	82	4
Federated Co-operatives Ltd.	358	4	358	0	—	338	12	300	58
Husky Oil Marketing Co.	344	6	311	33	344	0	0	258	81
Mohawk Oil Co. Ltd.	318	5	258	60	186	88	44	206	87
Petro-Canada Products	3,677	12	—	—	2,838	141	698	2,626	1,000
Shell Canada Ltd.	3,479(c)	12	2,254	1,051	2,661	183	461	2,638	597
Sunoco Inc.	631	3	631	0	—	—	—	—	—
Sunys Petroleum Inc.	253	2	248	5	108	2	143	215	38
Texaco Canada	1,818	10	—	—	928	0	890	1,218	580
Turbo Resources Ltd.	268	6	248	20	60	0	208	260	8
Ultramar Canada Inc.	1,373	6	—	—	1,373	—	—	1,163	182

(a) Did not respond; data is from 1986

(c) Includes Beaver—not a subsidiary, but Shell Canada's wholly-owned 'Pribrand' retail outlets.

(d) Includes terminals.

Brand Names of Gasoline and Motor Oils

Gasoline	Motor Oil
Chevron Canada Ltd.	
Chevron (r,ur)	Chevron
Chevron Supreme (up)	
Esso Petroleum Canada	
Esso (r)	HD
Esso 2000 (ur)	HDX
Esso Extra Unleaded (up)	Protec Extra
	Protec Ultra
Fas Gas Oil Ltd.	
Fas Gas (r,ur,up)	Hi-Performance 5000
Bi-Lo (r,ur,up)	Hi-Performance 6000
Federated Co-operatives Ltd.	
Sonic (r,ur,p)	Sonic Silver
Tempo (r,ur,p)	Sonic Gold
Husky Oil Marketing Co.	
Husky (r,ur,up,d)	Husky Heavy Duty
	Husky Heavy Duty Special
	Husky Stratolube
	Husky Stratoplus
	Husky Superlube
	Husky Super Duty
Mohawk Oil Co. Ltd.	
Mohawk (r,ur,up)	Mohawk 10W30
Speedway (r,ur,up)	Mohawk Multigrade
Payless (r,ur,up)	Mohawk Premium
	Mohawk Heavy Duty Plus
	Duckhams
	Canadian Pride
Petro-Canada Products Inc.	
Leaded Regular Plus	Multi Motor Oil/Premium Turbo Tested M.O.
Unleaded Plus	
The New 1 Super Unleaded	Super Plus 15W40
Shell Canada Ltd.	
Shell (r,ur,up)	Shell X100
Beaver (r,ur,up)	Shell TLO
Sunoco, Inc.	
Sunoco Regular (r)	CAM2
Sunoco ½&½ Leaded (r,up)	
Sunoco Premium Leaded (r,up)	
Sunoco Regular Unleaded (ur)	
Sunoco ½&½ Unleaded (ur,up)	
Sunoco Premium Unleaded (up)	
Pronto (r,ur,up)	
Sunys Petroleum Inc.	
Sunys (r,ur,p)	Drive N Save
Sipco (r,ur,p)	Sunys
Econobec (r,ur,p)	
Cansave (r,ur,p)	
Texaco Canada Ltd.	
Texaco (r,ur,up)	Havoline Supreme
	Havoline
	URSA Super Plus Multi-grade
	URSA Super Plus Single-grade
Turbo Resources Ltd.	
Turbo	Flo-Rite
	Turbo
	Red Ram
Ultramar Canada Inc.	
Regular Leaded	Ultralube
Regular Unleaded	Ultralube Super
Unleaded Premium	Ultralube Super Plus

KEY

Gasoline:

- **(r) Regular**
- **(p) Premium**
- **(ur) Unleaded**
- **(up) Unleaded Premium**

Motor Oils: Brand names are listed lowest-price grade first.

How Distribution is Organized

	BRANDED JOBBERS/COMMISSION AGENTS				BULK PLANTS				TERMINALS			
		SELLING ...				COMPANY OPERATED ...				COMPANY OPERATED ...		
Full-serve/ Self-serve	Total	Gasoline only	Fuel Oil only	Gasoline and Fuel Oil	Total	Salary operated	Commission operated	Jobber operated	Total	Salary operated	Commission operated	Jobber operated
49	39	—	—	39	—	—	—	—	2	2	—	—
5	550	0	0	550	600	0	600	0	0	0	0	0
0	0	—	—	—	0	—	—	0	1	1	—	0
0	12	12	—	—	300	295	5	0	1	1	—	—
5	24	0	0	24	24	0	0	24	1	0	0	0
25	44	44	0	0	0	—	—	0	0	—	—	0
51	485	0	0	485	437	36	206	195	21	21	0	0
70	414	0	0	414	770(d)	25	410	6	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
0	144	108	0	144	0	—	—	0	0	—	—	0
20	130	0	0	130	240	229	11	0	27	27	0	0
0	34	0	0	34	26	0	23	3	0	—	—	0
28	174	—	—	174	88	40	48	0	31	18	13	0

Branded Retail Outlets in Canada

Company	Total branded retail outlets	Number of Provinces	Newfoundland	Nova Scotia	New Brunswick	Quebec	Ontario	Prince Edward Island	Manitoba	Saskatchewan	Alberta	British Columbia	Northwest Territories	Yukon
Chevron Canada Ltd.	290	1	—	—	—	—	—	—	—	—	—	290	—	—
Esso Petroleum Canada (a)	3,050	12	—	—	—	—	—	—	—	—	—	—	—	—
Fas Gas Oil Ltd.	86	2	—	—	—	—	—	—	—	11	75	—	—	—
Federated Co-operatives Ltd.	358	4	—	—	—	—	—	—	60	220	50	28	—	—
Husky Oil Marketing Co.	344	6	—	—	—	—	47	—	29	43	127	90	—	8
Mohawk Oil Co. Ltd.	318	5	—	—	—	—	3	—	22	37	155	93	—	—
Petro-Canada Products	3,677	12	26	117	85	710	1,268	13	245	324	448	441(b)	—	—
Shell Canada Ltd.	3,479(c)	12	1	105	118	865	1,211	26	293	228	297	325	4	6
Sunoco Inc.	631	3	—	—	—	155	474	—	—	—	2	—	—	—
Sunys Petroleum Inc.	253	2	—	—	—	42	211	—	—	—	—	—	—	—
Texaco Canada	1,818	10	9	86	111	507	623	13	81	94	179	115	—	—
Turbo Resources Ltd.	268	6	—	—	—	—	1	—	16	62	150	37	2	—
Ultramar Canada Inc.	1,373	6	235	77	24	870	153	14	—	—	—	—	—	—

(a) Did not respond; data is from 1986.

(b) Includes outlets in Yukon and Northwest Territories.

(c) Includes Beaver—not a subsidiary but Shell Canada's wholly-owned 'Fribrand' retail outlets.

Gasoline Shares by Key Categories—1987

Three years ago, a new study on the Canadian retail gasoline market in 1984 was published by MPSI Americas, Inc., Tulsa, Okla., a company specializing in international computer software and information services along with market research and planning. Now, MPSI has released its latest study, covering the year 1987.

Figures for both 1987 and 1986 are shown in the table below to provide an overview of trends within the various gasoline marketing segments.

The study presents, on both a national and regional basis, market shares and percentages of outlets for conventional service stations, big gasoline pumpers, convenience stores that sell gasoline, plus a general category of "others" including car washes, garages and other facilities where gasoline is secondary.

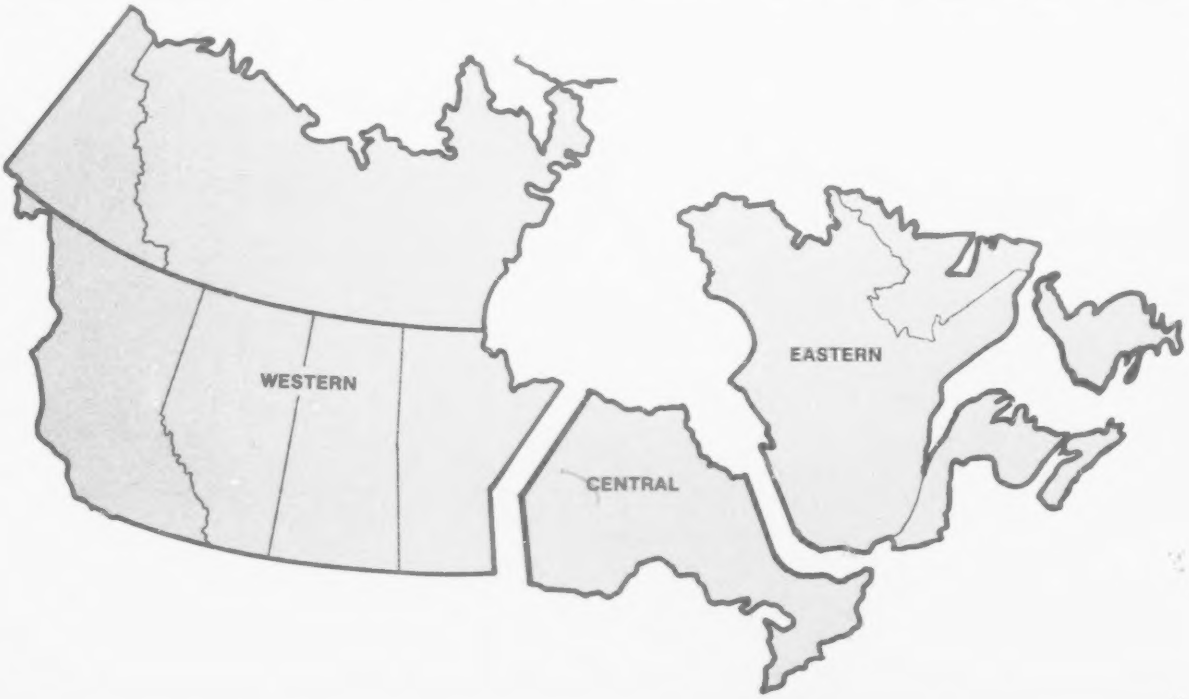
This study is concentrated primarily in the metropolitan areas of Canada, where most gasoline is marketed. It makes no attempt to count rural and highway vendors which, while important to the industry, do not add significantly to the overall consumption data.

This study continues to show the interesting disparities between the Canadian and U.S. retail markets (See the companion study of the U.S. market on p138). In particular, the phenomenal growth in combined gasoline/convenience store outlets in the U.S. has not been experienced yet in Canada, although the C-store numbers and market share are beginning to edge upward.

Regional and National Market Shares

	Service Stations		Pumpers		Convenience Food Stores		Others		Total	
	1987	1986	1987	1986	1987	1986	1987	1986	1987	1986
Eastern Region										
• % of Outlets	51.4	53.8	25.7	24.5	7.3	6.4	15.6	15.4	100.0	100.0
• % of Volume	47.0	48.4	39.7	39.2	6.0	5.5	7.3	6.9	100.0	100.0
• Avg. Monthly Volume (Liters)*	126,765	121,711	214,334	216,222	113,205	116,007	64.248	60,903	138,500	135,101
Central Region										
• % of Outlets	53.5	55.5	31.1	29.9	1.8	1.7	13.6	12.9	100.0	100.0
• % of Volume	49.2	51.1	43.6	41.8	1.3	1.2	5.9	5.9	100.0	100.0
• Avg. Monthly Volume (Liters)	189.228	182.389	289,135	277,598	141,957	139,750	89,500	90,169	205,846	198,173
Western Region										
• % of Outlets	40.8	44.5	40.6	36.8	5.6	4.6	13.0	14.1	100.0	100.0
• % of Volume	38.1	41.8	53.7	50.4	3.0	2.4	5.2	5.4	100.0	100.0
• Avg. Monthly Volume (Liters)	209.373	210,070	267,955	306,919	109,752	117,932	79,114	86,458	210,619	224,069
Total Canada										
• % of Outlets	49.3	52.1	31.7	29.7	4.8	4.1	14.2	14.1	100.0	100.0
• % of Volume	45.2	47.4	45.6	43.8	3.1	2.7	6.1	6.1	100.0	100.0
• Avg. Monthly Volume (Liters)	170.380	165,735	260,090	268,563	116.825	120,240	77,248	77,628	182.985	181,933

Source: MPSI Americas, Inc., Tulsa, Oklahoma.
*1 gal. = 3.78 Liters



Canadian Statistics

Motor Vehicle Registrations 1986

	Passenger Cars	Trucks	Buses	Motorcycles	Others	Total Vehicles	Trailers	Off-road Snowmobiles	Off-road Other	Licensed gasoline outlets
Newfoundland	176,351	77,693	2,081	10,576	6,491	273,192	30,274	61,301	9,826	..
Prince Edward Island	56,224	19,841	411	2,003	140	78,619	1,085	25	593	..
Nova Scotia	337,120	145,011	1,466	18,367	3,152	505,116	41,853	5,195	7,088	1,350
New Brunswick	286,037	121,462	..	11,393	7,590	426,482	54,585	..	..	1,399
Quebec	2,614,312	339,033	13,427	96,167	82,177	3,145,116	611,166	76,409	248,010	6,189
Ontario	4,244,200	946,145	25,661	144,643	6,628	5,367,277	918,699	237,806	53,943	7,478
Manitoba	527,485	213,434	171	17,838	19	758,947	92,349	31,269	207	..
Saskatchewan	388,671	268,628	4,213	7,301	443	669,256	105,271	7,301	14	..
Alberta	1,295,635	392,365	8,710	41,751	1,011	1,739,472	320,438	17,688	22,883	..
British Columbia	1,526,645	618,372	..	77,700	..	2,222,717	260,444	50,561	..	..
Yukon	7,510	12,454	195	726	..	20,886	4,360	517	..	..
Northwest Territories	17,124	1,218	140	1,670	79	20,231	5,320	..	549	..
Canada	**11,477,314**	**3,155,656**	**56,476**	**430,135**	**107,730**	**15,227,311**	**2,445,844**	**488,072**	**36,062**	**16,416**

Note: e estimated
"Off-road other" includes farm tractors, construction equipment etc.
.. figures not available

Automobiles Per Household 1987
estimates in thousands

	Households	Total Households with Vehicles	Households with automobiles: Total	1 auto	2 autos	3 or more autos	without autos	Vans or trucks: with 1	Households with 2 or more	Households without automobiles
Newfoundland	168	133	109	86	21	—	59	47	—	36
Prince Edward Island	43	38	36	26	9	—	7	12	—	5
Nova Scotia	313	257	238	179	52	7	75	74	7	56
New Brunswick	246	208	193	147	40	6	54	68	7	38
Quebec	2,530	2,003	1,910	1,410	437	62	620	319	26	526
Ontario	3,451	2,845	2,752	1,769	801	182	699	581	55	606
Manitoba	405	337	315	213	81	21	90	102	23	68
Saskatchewan	378	327	299	208	74	18	78	122	42	51
Alberta	872	778	714	462	194	58	159	269	69	94
British Columbia	1,149	1,003	920	635	229	56	228	356	44	146
Canada 1987	**9,556**	**7,929**	**7,487**	**5,134**	**1,938**	**414**	**2,069**	**1,950**	**276**	**1,627**

New Motor Vehicle Sales

	Total, new motor vehicles	Passenger cars	Comm. vehicles	Cars: North America	Cars: Japan	Cars: Other Countries(1)	Commercial Vehicles: North America	Commercial Vehicles: Other Countries(2)
1987	1,528,104	1,064,865	463,239	701,048	243,288	120,529	411,884	51,355
1986	1,515,920	1,095,313	420,607	761,169	203,304	130,840	368,423	52,184
1985	1,530,410	1,137,216	393,194	794,965	199,221	143,030	344,871	48,323

(1) Excludes Japanese and North American manufactured vehicles
(2) Excludes North American manufactured vehicles

Factory Sales of Auto Batteries

	1987	$	1986	$
Original Equipment	confidential	confidential	confidential	confidential
Replacement	2,817,031	124,951,446	2,555,068	100,023,895
Heavy-duty transport, motor coach, bus, diesel, starting batteries, for replacement	confidential	confidential	332,106	19,450,833

Drivers' Licenses 1986

	Operators (drivers & chauffeurs)	Temporary (instructor permits)
Newfoundland	287,862	7,224
Prince Edward Island	29,256	..
Nova Scotia	552,769	14,589
New Brunswick	422,428	23,701
Quebec	3,774,935	..
Ontario	5,817,799	..
Manitoba	623,406	..
Saskatchewan	649,989	26,150
Alberta	1,707,694	111,962
British Columbia	2,326,941	..
Yukon	20,667	1,021
Northwest Territories	12,349	1,061
Canada	**16,226,095**	**185,708**

Note: .. Figures not available.

Principal Heating Fuels in 1987
(000 Households)

	Oil	Piped Gas	Bottled Gas	Electricity	Other	Wood	Total Households
Newfoundland	54	—	—	70	—	45	168
Prince Edward Island	35	—	—	—	—	8	43
Nova Scotia	201	—	5	55	6	47	313
New Brunswick	92	—	—	104	—	48	246
Quebec	575	242	—	1,608	...	90	2,530
Ontario	641	2,028	22	679	...	76	3,451
Manitoba	25	226	5	137	—	12	405
Saskatchewan	40	294	9	21	—	10	378
Alberta	...	817	15	17	...	...	872
British Columbia	166	624	...	276	—	73	1,149
Canada	**1,840**	**4,231**	**65**	**2,967**	**39**	**414**	**9,556**

Note: Data from a sample survey only.
— amount too small
... figures not applicable
"Other" includes Coal and Coke.

LPG Sales by States and Uses—1986

(Add 000 gal.)

	Residential and Commercial	Industrial (a)	Engine Fuel	Utility Gas	Farm	Other (b)	Total (c) (d)
Alabama	125,768	12,656	14,606	0	21,446	233	175,072
Alaska	w	w	w	0	w	w	13,300
Arizona	57,283*	9,160*	10,573	0	3,980	w	82,649
Arkansas	121,083	4,166	9,167	0	32,258*	538*	167,503
California	256,801	259,909	115,853*	4,817	35,764	16,690*	766,324
Colorado	69,593	11,202*	5,396	0	2,451	835	89,478
Connecticut	28,803	11,640	1,995	w	754	319*	46,383
Delaware	21,163	w	4,012	0	1,940	2,124	33,084
Florida	328,669*	25,178	39,381	12,612	17,942	4,652	431,608
Georgia	181,892	18,922	16,920	w	49,903	3,886*	274,184
Hawaii	w	0	w	0	w	0	6,712
Idaho	14,791	6,862	5,941	0	2,474	650	30,718
Illinois	237,488	47,344	52,350	w	254,471	2,445*	764,188
Indiana	204,099	11,755	20,262	w	84,682	1,642*	329,913
Iowa	256,299	16,937	19,551*	0	292,817	401*	588,186
Kansas	94,785	31,727*	13,969*	w	32,965	943*	212,224
Kentucky	129,346	92,915*	11,192	228	6,636	228	270,554
Louisiana	55,816	21,551*	9,411	w	6,251	7,380*	896,539
Maine	26,126	10,479	2,064	w	1,114	w	42,465
Maryland & D.C.	38,907	11,047	3,196	0	3,421	2,217*	59,584
Massachusetts	58,262	9,423	5,574	w	274	839*	94,715
Michigan	395,192	60,174	39,224	52,396	50,265	98,001*	801,192
Minnesota	219,280	37,434	17,462	29	119,192	2,317*	397,852
Mississippi	89,298	13,960*	19,199	w	14,837	974*	147,132
Missouri	306,412	20,847*	21,765	w	33,359	1,008*	384,048
Montana	32,194	14,282	5,036	0	9,883	w	63,384
Nebraska	69,719	6,934	5,255	0	80,767	550*	163,284
Nevada	34,161	6,294*	2,763	0	1,480	1,196	45,898
New Hampshire	52,961	9,612	1,467	688	75	6,469	71,272
New Jersey	52,537	26,800	9,184	w	2,164	666*	207,911
New Mexico	52,720	3,412	9,220	w	3,903	856	71,050
New York	168,187	20,752	9,698	w	7,616	1,040*	208,275
North Carolina	162,973	37,011	15,272	w	89,522	4,286*	314,373
North Dakota	48,915	3,765	3,163	w	28,400	5,136	89,402
Ohio	270,125	46,839*	57,020	w	69,311	3,116*	520,397
Oklahoma	115,870	42,428	14,594	w	32,383	277*	280,609
Oregon	27,159	19,279*	19,362	0	5,171	689	71,896
Pennsylvania	101,835	45,900	17,237	0	19,624	1,948*	186,764*
Rhode Island	13,120	3,489	1,649	w	31	345*	24,500
South Carolina	85,909*	14,718	6,803	355	13,831	787	122,967
South Dakota	65,881	2,095	3,485	w	32,068	637	104,189
Tennessee	111,758	20,442	27,870	w	4,252	550*	166,793
Texas	348,126	128,894	76,427	33,439	72,125	12,922*	3,730,949
Utah	22,174*	5,749*	6,656*	w	1,920	w	48,993
Vermont	31,134	3,973	920	w	139	w	37,026
Virginia	78,466	32,160	5,079	w	19,154	5,762*	141,903
Washington	26,719	15,656*	35,203*	0	6,976	582	94,972
West Virginia	11,693	1,893	1,760	w	705	167	38,200
Wisconsin	239,955	24,344	19,195	w	61,017	1,998*	346,983
Wyoming	31,268*	17,031*	4,417*	w	2,197	614*	67,828
U.S. Total	**5,606,699**	**1,340,652**	**820,504**	**294,765**	**1,633,888**	**361,625**	**14,325,445**

* Propane only; butane withheld. ** Butane only, propane withheld. w-Data withheld to avoid disclosing reports for individual companies. These reports included in totals. (a) includes refinery fuel. (b) includes secondary recovery of petroleum and synthetic natural gas feedstock. (c) API data on LP-gas refinery inputs is used in determining LP-gas production/sales in preference to the volume reported by EIA. (d) includes chemical use.

Source: National LP Gas Assn./American Petroleum Institute

LPG Sales Trends in Recent Years (a)

Major Domestic Markets (Add 000,000 gal.)

	Total U.S. Sales		Residential-Commercial		Chemical		Internal Combustion		Industrial		Farm	
Year	Vol.	% Change	Vol.	% Change	Vol.	% Change	Vol.	% Change	Vol.	% Change	Vol.	% Change
1986	14,325	(5.0%)	5,607	(3.2%)	4,267	(0.9%)	821	(12.8%)	1,341	3.2%	1,634	(4.2%)
1985	15,080	(0.3)	5,794	11.4	4,307	4.8	942	1.0	1,299	(31.2)	1,706	2.6
1984	15,129	10.5	5,203	(14.6)	4,109	26.7	951	(30.2)	1,888	54.7	1,663	40.7
1983	13,688	(1.6)	6,090	(1.5)	3,244	(3.5)	1,362	9.8	1,220	(6.9)	1,183	(8.0)
1982	13,915	(3.3)	6,180	(2.1)	3,362	(3.2)	1,240	9.7	1,310	(5.0)	1,285	(12.1)
1981	14,395	(3.8)	6,310	(3.4)	3,474	(3.1)	1,130	3.6	1,380	(10.9)	1,463	(4.4)
1980	14,969	(8.9)	6,531	(4.9)	3,584	(11.3)	1,090	4.3	1,548	(20.2)	1,529	(15.4)
1979	16,432	9.4	6,871	1.2	4,043	12.7	1,045	5.5	1,940	44.8	1,764	—

This is as far back as the restated API/LPGA data go on sales trends. The figures below are Energy Information Administration data and are not essentially comparable to the restated data above. In the data below, the last column was for "all other uses" instead of farm consumption.

Year	Vol.	% Change	Vol.	% Change	Vol.	% Change	Vol.	% Change	Vol.	% Change	Vol.	% Change
1977	15,508	-3.2	7,169	-2.0	3,578	-12.4	1,145	-2.1	1,044	—	2,573	7.5
1975	15,200	-6.8	7,020	-2.9	4,172	-23.0	1,162	-11.3	1,082	1.2	1,763	38.3
1970	15,271	26.6	7,569	41.6	5,003	24.8	1,336	11.9	897	32.1	467	125.6
1965	11,434	33.7	5,346	26.5	4,008	54.6	1,194	33.0	679	13.9	207	-23.0
1960	8,579	40.1	4,225	50.8	2,593	36.5	898	37.7	596	13.7	269	9.3

(a) In 1984, Energy Information Administration suddenly terminated collection of LPG sales data for budgetary reasons. American Petroleum Institute, Liquefied Petroleum Gas Assn. and others began a cooperative effort to provide the missing data annually. The 1983 and 1984 data were published in March, 1986. The new information is based on EIA data, plus API and LPGA, and are restated for the years 1979 through 1984. Utility gas, refinery fuel and miscellaneous uses are included in U.S. totals but are not stated separately.

Source: National LP-Gas Assn., 1986 LP-Gas Market Facts, published 1987.

LPG Consumption Declines (Again) In 1986 After Big Spurt in '84

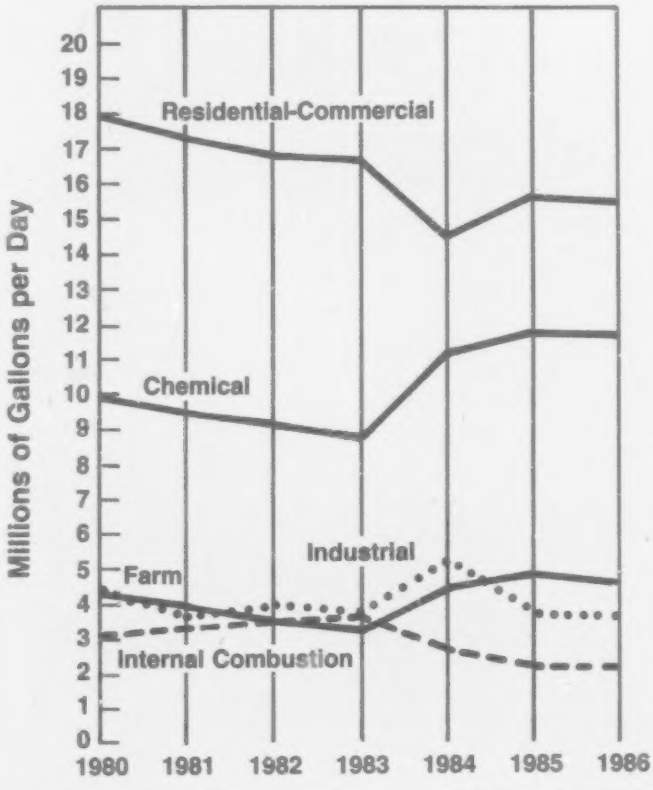
Sales of liquefied petroleum gas dropped 5% in 1986, resuming the downward trend that has been going on since 1979. Only in 1984 has there been an increase in recent years albeit a big one at that, a 10.5% leap upwards.

Only industrial usage showed an increase in 1986, a modest upturn of 3.2%. All the others were on the downside.

Residential-commercial demand, which is the highest of the various market places, slumped 3.2% in 1986 to a level of 5.6-billion gal. for the year or an average of 15.4-million gal./day. Chemical consumption was about even with 1985, although the actual percentage factor was on the negative side, 0.9%.

In the table above, LPG used in refineries is included in industrial consumption. Other secondary uses are lumped together in the U.S. total.

Principal Uses of LPG by Sector



Source: Graph by *NPN* based on Liquefied Petroleum Gas Assn./American Petroleum Institute data.

LPG Sales by States, 1979-86

(thousands of gallons)

	1980 (a)	1981 (a)	1982 (a)	1983 (a)	1984 (b)	1985 (b)	1986 (b)
Alabama	227,731	236,176	213,548	206,881	178,075	174,219	175,072
Alaska	21,897	21,925	36,139	24,783	w	14,889	13,300
Arizona	75,241	72,553	73,127	73,890	66,727	76,034	82,649
Arkansas	234,582	182,832	193,913	190,425	168,904	176,381	167,503
California	511,451	621,623	625,100	638,197	739,859	776,882	226,324
Colorado	218,505	194,561	225,710	167,763	103,705	105,256	89,478
Connecticut	57,593	61,695	59,244	54,967	51,282	51,680	46,383
Delaware	39,536	42,563	39,365	43,007	49,652	41,825	33,084
Florida	412,424	434,344	378,633	396,833	347,271	399,436	431,608
Georgia	298,846	324,803	283,259	288,293	263,364	291,335	274,184
Hawaii	33,010	27,108	37,757	23,140	w	6,296	6,712
Idaho	41,554	34,717	44,525	39,089	31,815	36,230	30,718
Illinois	727,808	655,106	613,051	624,976	794,996	788,693	764,188
Indiana	313,052	301,838	282,080	321,871	357,416	328,805	329,913
Iowa	385,266	357,245	408,322	441,185	528,416	591,080	588,186
Kansas	234,229	236,421	273,425	345,937	756,234	611,981	212,224
Kentucky	253,853	235,841	218,674	214,026	260,962	284,430	270,554
Louisiana	306,133	248,899	202,029	236,384	982,522	952,434	896,539
Maine	37,827	34,072	38,113	33,096	22,935	26,533	42,456
Maryland & D.C.	82,866	93,723	77,805	89,809	96,840	75,501	59,584
Massachusetts	88,995	121,024	105,076	88,042	65,990	71,752	94,715
Michigan	309,661	278,640	327,955	431,990	484,763	720,361	801,192
Minnesota	281,711	264,838	297,694	313,466	333,725	356,330	397,852
Mississippi	236,291	225,792	233,627	225,201	218,242	208,514	147,132
Missouri	465,742	407,099	455,980	411,025	340,805	372,837	384,048
Montana	79,987	54,940	77,359	62,941	49,258	61,597	63,384
Nebraska	179,335	166,829	180,572	156,875	149,236	176,763	163,284
Nevada	35,936	33,836	38,652	40,072	36,366	47,390	45,898
New Hampshire	59,892	56,732	64,583	59,096	50,017	64,713	71,272
New Jersey	139,002	141,364	124,038	111,901	264,907	232,104	207,911
New Mexico	152,380	108,945	154,427	158,873	153,130	140,102	71,050
New York	289,028	264,125	245,749	262,584	208,193	207,808	208,275
North Carolina	303,397	303,417	275,717	282,743	299,367	323,396	314,373
North Dakota	53,288	73,781	66,273	47,613	31,464	26,811	89,402
Ohio	1,001,818	955,760	867,725	662,365	504,464	603,114	520,397
Oklahoma	266,389	284,961	260,694	249,347	272,150	400,132	280,609
Oregon	63,949	70,612	64,582	68,683	60,694	67,666	71,896
Pennsylvania	288,386	248,850	222,533	225,533	239,876	228,144	186,764
Rhode Island	13,871	13,537	15,699	15,338	12,962	20,888	24,500
South Carolina	136,762	143,156	127,860	125,485	108,489	134,045	122,967
South Dakota	124,175	89,727	101,433	88,814	69,586	86,254	104,189
Tennessee	146,307	79,904	116,009	138,024	137,847	149,979	166,793
Texas	1,461,685	1,419,233	1,048,020	1,000,960	4,066,334	3,749,674	3,730,949
Utah	38,806	48,817	71,663	66,121	62,630	60,931	48,993
Vermont	31,127	33,823	41,955	38,814	28,321	33,848	37,026
Virginia	143,117	140,183	132,161	113,591	157,263	162,529	141,903
Washington	72,585	83,450	83,408	96,114	92,533	88,627	94,972
West Virginia	38,037	36,676	26,978	22,178	15,031	35,663	38,200
Wisconsin	283,529	259,668	280,861	337,044	364,777	361,689	346,983
Wyoming	88,686	93,247	120,004	88,071	75,340	76,241	67,828
Totals	**11,385,278**	**10,921,011**	**10,553,086**	**10,443,456**	**14,789,925**	**15,079,822**	**14,325,445**

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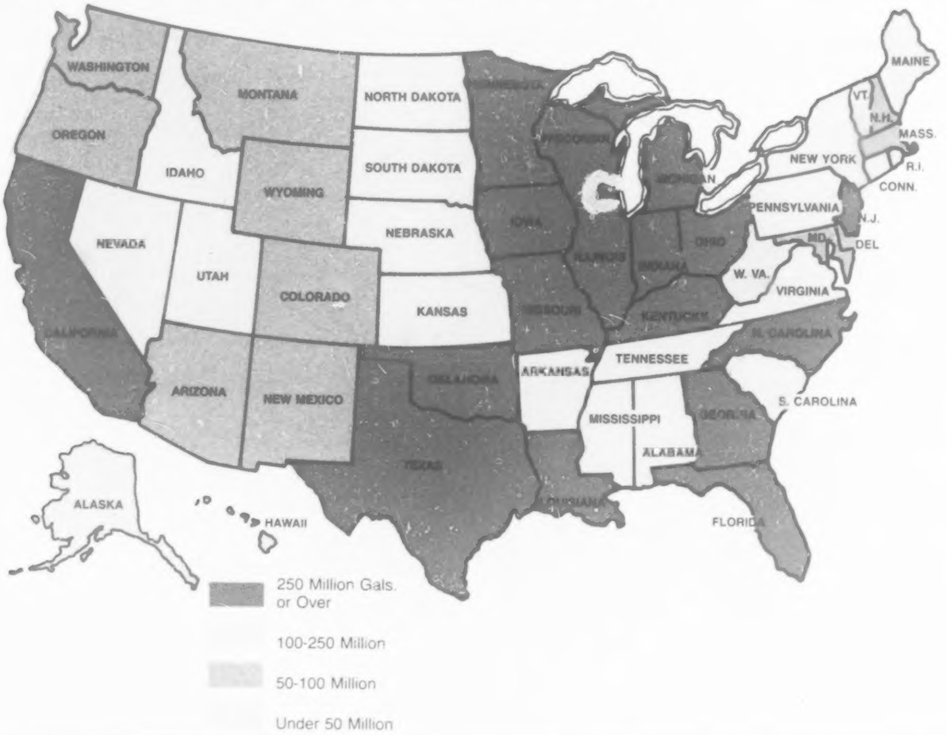
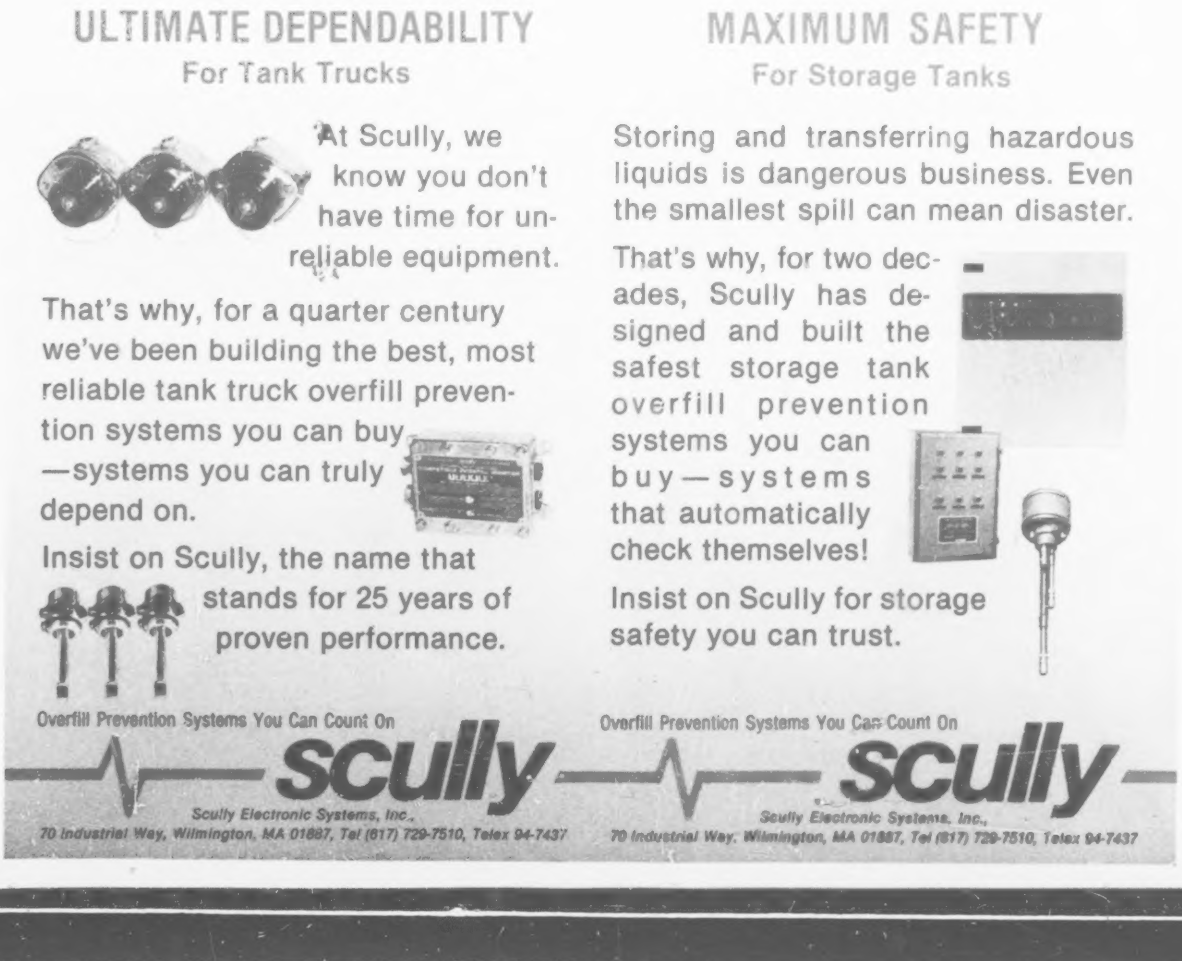
w-Data withheld to avoid disclosing reports for individual companies. These reports included in totals. (a) Does not include chemical feedstock use; (b) Does include chemical feedstock use.

Source: National LP-Gas Assn./American Petroleum Institute.

Where LPG Was Used in 1986


WASHINGTON
MONTANA
NORTH DAKOTA
MINNESOTA
MAINE
OREGON
IDAHO
WYOMING
SOUTH DAKOTA
WISCONSIN
MICHIGAN
VT.
N.H.
MASS.
NEW YORK
R.I.
CONN.
NEVADA
UTAH
COLORADO
NEBRASKA
IOWA
ILLINOIS
INDIANA
OHIO
PENNSYLVANIA
N.J.
MD.
DEL
W. VA.
VIRGINIA
CALIFORNIA
KANSAS
MISSOURI
KENTUCKY
N. CAROLINA
TENNESSEE
ARIZONA
NEW MEXICO
OKLAHOMA
ARKANSAS
S. CAROLINA
MISSISSIPPI
ALABAMA
GEORGIA
TEXAS
LOUISIANA
FLORIDA
ALASKA
HAWAII
250 Million Gals. or Over
100-250 Million
50-100 Million
Under 50 Million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Lube Sales Rise Modestly in '87

Lubricant sales rose 3.5 points on the 1987 index, the best one year increase since 1984, according to National Petroleum Refiners Assn. The gain more than offset an unexpected decrease in the 1986 index which resulted from a recapitulation of all data.

The NPRA report does not give volumes, only indexes and percentages which are based on the reports of participating companies. To preserve the confidentiality aspects of company sales, the reports are given to an independent auditor who converts them into indexes on an industry-wide basis.

The product categories, as defined by NPRA, are these: automotive oil—engine oils, automatic transmission fluids, gear oils and aviation oils; industrial oil—industrial engine oils, metalworking fluids, process oils and general industrial oils; grease—both automotive and industrial greases.

All finished lubricants are included in the NPRA totals. Not included, however, are exports and lube base stocks sold for further blending into finished lubricants.

NPRA stated that the data reflect the sales of the participating companies only. Sales of finished lubricants by other companies (commonly known as independent compound blenders) are not covered.

For its categories, NPRA used 55.5% of the sales for automotive oils, 42.3% for industrial oils, and 2.2% for greases.

Quarterly Indexes on Lubricant Sales

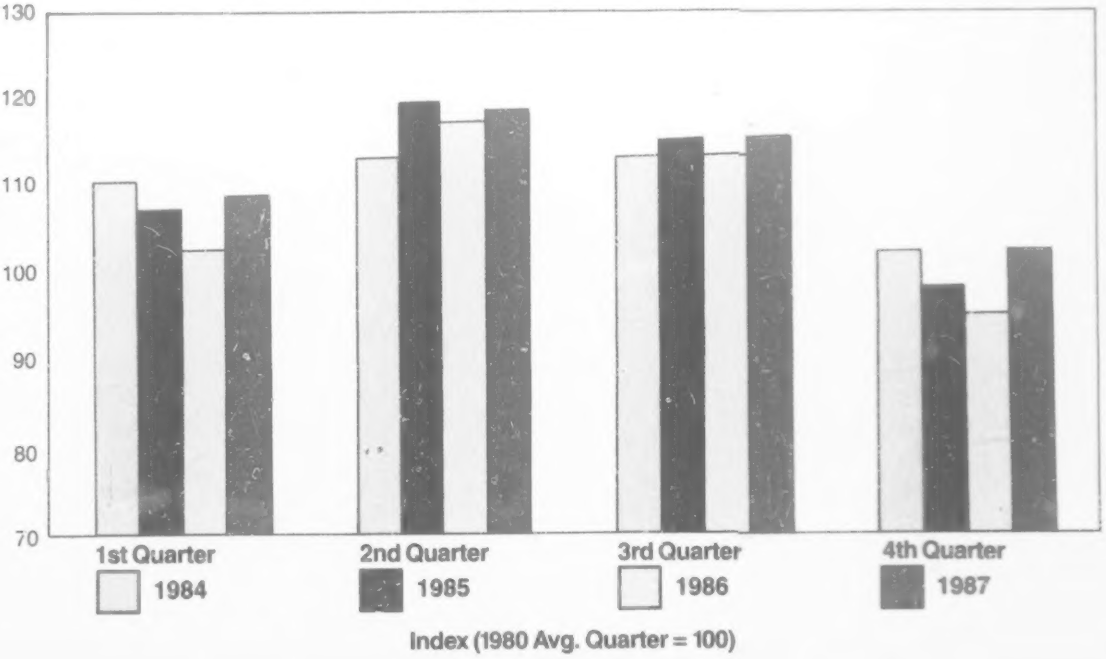
	Quarters				Full Year
	1	2	3	4	
1987	101.0	108.5	108.4	101.3	104.9
1986	100.4	107.2	104.4	93.7	101.4
1985	99.5	107.7	103.5	95.4	101.5
1984	103.1	108.5	106.2	97.5	103.8
1983	89.3	99.1	98.0	92.5	94.7

Percentage Changes by Products and Quarters

	Quarters				Full Year
1987 vs. 1986	1	2	3	4	
Automotive	6.1%	0.5%	1.8%	6.2%	3.4%
Industrial	−6.0	2.9	8.7	11.4	4.0
Grease	−9.6	−8.0	−13.5	−0.5	−8.0
Total	**0.7**	**1.2**	**4.0**	**8.1**	**3.6**
1986 vs. 1985					
Automotive	−4.1%	−3.1%	−1.3%	−1.9%	−2.6%
Industrial	8.8	4.4	4.0	−2.0	3.8
Grease	−1.6	−8.3	4.1	3.8	−0.6
Total	**0.9**	**−0.5**	**0.8**	**−1.8**	**−0.1**
1985 vs. 1984					
Automotive	−3.6%	3.5%	1.0%	−4.1%	−0.7%
Industrial	−3.1	−7.2	−7.4	1.3	−4.3
Grease	−4.5	−3.9	−6.7	−11.1	−6.6
Total	**−3.5**	**−0.8**	**−2.5**	**−2.2**	**−2.2**
1984 vs. 1983					
Automotive	15.0%	7.6%	6.0%	8.7%	9.2%
Industrial	13.7	12.0	10.9	0.5	9.2
Grease	28.6	33.1	10.5	1.2	16.7
Total	**14.8**	**9.8**	**7.9**	**5.2**	**9.4**

N.B. For the index, the average quarter in 1980 = 100%; the base for quarterly indexes is 1980 full year sales for the reporting companies divided by four.
Source: National Petroleum Refiners Assn.

Automotive Lubricant Sales



Lube Sales Forecast: Slow Growth

Lubricant sales—automotive and industrial oils and lubricating greases—are projected to grow at a modest rate of 1.3% (gallonage) compounded annually over the next ten years, says Business Trends Analysts, Inc. a Long Island-based market research firm, in a study released in late 1987.

Major points in the study:

- The automotive lubricant market is maturing and only expected to grow at a 1.1% compounded annual rate. New car technology and improved product is extending service intervals.
- The industrial oil market is expected to grow at compounded annual rate of 1.8% from 1986 to 1996, while lubricating grease gallonage sales are forecast to increase 1.6% annually.

Synthetic oils are demonstrating a substantial and growing impact on all areas of the market, says BTA. Synthetics, while providing a rosier outlook for companies which produce them, will hamper overall industry demand by further extending service life.

Manufacturers' Sales of Lubricants, by Major Product Category

($ Millions)

Year	Industry Total	Lubricating Oils	Lubricating Greases	Other Lubricating Oils/Greases
1972	$1,526.8	$1,301.2	$125.6	$100.0
1977	3,232.8	2,762.6	228.2	242.0
1982	5,609.7	4,813.8	466.3	329.6
1987E	5,073.6	4,368.4	400.8	304.4
1996P	9,142.3	7,829.7	773.3	539.3

E—Estimate
P—Projection

Source: U.S. Department of Commerce; Business Trend Analysts, Inc.

Total Sales of U.S. Lubricants

(Million Gallons)

Automotive/Industrial Lubricants

Year	Total	% Change	Oils	% Change	Grease	% Change
1979	2,503	—	2,435	—	68	—
1980	2,286	−8.7%	2,224	−8.7%	62	−8.8%
1981	2,244	−1.8	2,182	−1.9	62	0.0
1982	2,049	−8.7	1,998	−8.4	51	−17.7
1983	2,169	5.9	2,114	5.8	55	7.8
1984	2,332	7.5	2,271	7.4	61	10.9
1985	2,337	0.2	2,277	0.3	60	−1.6
1986E	2,352	0.6	2,292	0.7	60	0.0
1987E	2,372	0.9	2,311	0.8	60	0.0
1996P	2,699	1.3*	2,629	1.3*	70	1.6*

E—Estimate
P—Projection
*Compounded annually

Source: National Petroleum Refiners Association; Business Trend Analysts, Inc.

U.S. Apparent Consumption of Lubricating Oils and Greases

($ Millions)

Year	Domestic Product Shipments	Exports	Imports	U.S. Apparent Consumption
1978	$3,633.7	$466.9	$ 57.6	$3,244.4
1979	4,895.6	533.2	73.1	4,435.5
1980	5,868.4	733.2	110.2	5,245.4
1981	6,738.4	695.4	119.4	6,162.4
1982	5,609.7	569.7	114.7	5,154.7
1983	5,783.4	527.4	174.0	5,430.0
1984	6,403.4	643.8	247.7	6,007.3
1985	5,959.2	465.9	194.4	5,687.7
1986E	4,916.3	541.7	146.7	4,521.3
1987E	5,073.6	585.0	150.0	4,638.6

E—Estimate

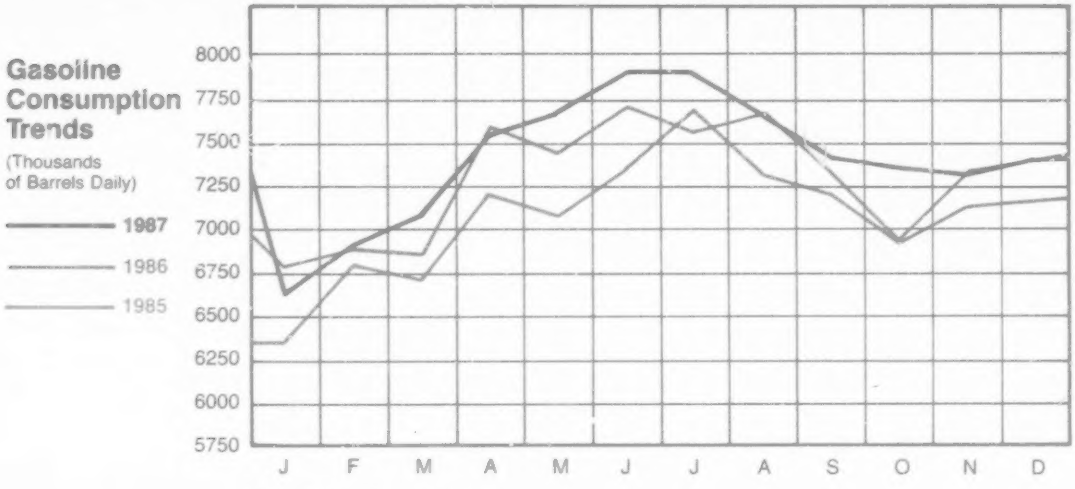
Source: U.S. Department of Commerce; Business Trend Analysts, Inc.

Estimated Market Share: Selected Lubricant Refiners and Producers

	Year		
Company	1980	1984	1986
Amoco	3.5%	3.2%	3.4%
Ashland Oil	2.7	3.4	3.5
Atlantic Richfield	2.8	2.7	2.8
Calumet Refining	1.1	1.6	1.7
Chevron USA	2.7	1.0	10.5
Citgo	2.8	2.8	NA
Conoco	1.5	2.3	0.9
Cross Oil & Refining	0.9	1.7	1.8
Exxon	20.1	21.2	21.7
Gulf Oil	5.7	5.5	NA
Macmillan Petroleum	1.0	0.9	1.0
Mobil	6.9	6.7	6.4
Pennzoil	2.6	5.1	5.3
Quaker State	4.1	3.5	3.0
Shell	7.2	7.5	5.9
Standard (Ohio)	1.0	0.9	1.1
Sun	13.2	12.8	10.8
Texaco	8.7	8.5	5.9
Unocal	3.2	3.3	3.5
Witco Chemical	3.5	2.9	3.0
Other	4.8	2.5	7.8

NA: Not Available

Source: National Petroleum Refiners Association; Business Trend Analysts, Inc.



Source: Federal Highway Administration

Gasoline Consumption by States

(Includes highway and off-highway consumption)

	Rank		(Add 000 gal.) Gallonage (a)			(Add 000 gal.) Gasohol Included (b)	
	1987	1986	1987	1986	% Chng.	1987	1986
Alabama	16	22	2,084,218	2,012,114	3.6%	466,265	261,286
Alaska	50	50	242,578	256,534	(5.4)	381	171
Arizona	25	26	1,692,462	1,635,083	2.9	—	—
Arkansas	33	33	1,241,796	1,212,035	2.5	—	—
California	1	1	12,543,135	12,175,654	3.0	252,711	189,046
Colorado	27	27	1,555,823	1,592,000	(2.3)	31,440	70.463
Connecticut	28	28	1,484,832	1,443,603	0.4	—	5,323
Delaware	47	47	338,258	333,247	1.5	—	—
Dist. of Col.	—	—	181,371	167,549	8.2	328	205
Florida	4	4	5,899,372	5,690,765	3.7	147,122	334,041
Georgia	10	10	3,421,116	3,313,314	3.3	—	—
Hawaii	45	46	384,958	364,615	5.6	—	—
Idaho	41	41	462,202	469,394	(1.5)	24,207	22,016
Illinois	6	6	4,772,356	4,731,675	0.9	1,341,779	1,286,828
Indiana	13	14	2,745,534	2,622,218	4.7	695,520	668,638
Iowa	29	29	1,369,769	1,367,462	0.2	397,028	385,130
Kansas	32	32	1,265,339	1,248,854	1.3	139,831	232,604
Kentucky	23	23	1,855,460	1,850,343	0.3	757,390	736,349
Louisiana	20	17	2,062,830	2,160,554	(4.5)	252,975	336,187
Maine	38	38	606,596	582,048	4.2	—	—
Maryland	19	21	2,068,369	2,027,743	2.0	—	501
Massachusetts	16	16	2,491,661	2,458,074	1.4	—	—
Michigan	8	8	4,287,732	4,187,028	2.4	482,896	382,010
Minnesota	22	19	2,033,108	2,040,806	(0.4)	214,005	374,032
Mississippi	31	31	1,270,055	1,261,173	0.7	—	—
Missouri	14	13	2,732,601	2,762,114	(1.1)	—	14,316
Montana	42	42	438,181	443,446	(1.2)	2,451	3,454
Nebraska	36	36	776,125	776,830	(0.1)	241,984	216,356
Nevada	39	39	567,686	535,099	6.1	58,877	18,650
New Hampshire	40	40	514,166	481,789	6.7	—	—
New Jersey	9	9	3,525,605	3,524,601	0.0	—	—
New Mexico	35	35	821,713	800,775	2.6	99,310	58,752
New York	3	3	6,168,882	5,957,386	3.6	—	—
North Carolina	11	11	3,318,095	3,227,688	2.8	—	—
North Dakota	46	45	381,284	376,068	1.4	62,726	65,327
Ohio	5	5	4,976,252	4,878,206	2.0	807,312	814,579
Oklahoma	24	24	1,772,817	1,848,704	(4.1)	—	26,994
Oregon	30	30	1,312,919	1,294,515	1.4	—	—
Pennsylvania	7	7	4,456,486	4,523,848	(1.5)	—	—
Rhode Island	43	44	396,573	394,173	0.6	—	—
South Carolina	26	25	1,680,761	1,700,307	(1.1)	37,657	15,550
South Dakota	44	43	390,527	394,961	(1.1)	59,158	63,484
Tennessee	15	15	2,513,747	2,651,534	(5.2)	283,532	394,469
Texas	2	2	8,856,889	9,085,634	(2.5)	454,502	362,243
Utah	37	37	761,489	766,726	(0.7)	226	2,409
Vermont	49	49	282,232	259,631	8.7	—	—
Virginia	12	12	2,993,746	2,815,511	6.3	310,274	423,709
Washington	17	20	2,207,253	2,034,097	8.5	57,804	26,797
West Virginia	34	34	829,349	806,401	2.8	—	—
Wisconsin	21	18	2,046,604	2,061,116	(0.7)	10,238	15,312
Wyoming	48	48	313,409	328,877	4.7	50	55
Total U.S.	—	—	**113,507,440**	**111,933,927**	**1.4**	**7,764,197**	**7,807,286**

(a) These totals reflect the gross gal. of gasoline reported for tax purposes by wholesale distributors in each state. The data are taken from state taxation reports. The data include highway and non-highway use, and losses.

(b) These totals show gross gal. of gasohol (ethanol blends) reported by the states. The data are obtained from state taxation reports. In states where gasohol is taxed at the same rate as gasoline, some gasohol gallonage may be commingled with gasoline data. All totals—gasoline and gasohol—are preliminary.

Source: Federal Highway Administration, Monthly Gasoline Reports, 1987.

Gasoline Consumption by Months—1987

This table, prepared by Federal Highway Administration, shows gross gallons of gasoline reported by wholesale distributors in each state. The data are taken from state taxation reports and may reflect time lags up to six weeks between the wholesale level and retail sales. The data include highway use, nonhighway use, and losses.

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	159,663	150,881	171,345	177,497	177,125	185,757	189,551	174,105	172,130	177,631	164,809	183,724	2,084,218
Alaska	15,889	15,257	18,256	18,869	20,598	24,564	25,991	24,416	23,204	20,386	17,301	17,847	242,578
Arizona	143,555	140,091	147,090	141,430	143,836	136,498	136,102	139,772	141,047	141,047	141,047	141,047	1,692,462
Arkansas	56,537	124,315	98,447	100,027	110,772	116,466	112,336	104,432	109,326	36,984	161,710	110,444	1,241,796
California	993,650	915,495	1,057,104	1,070,821	1,051,673	1,067,111	1,085,727	1,065,650	1,037,168	1,072,756	1,031,067	1,094,373	12,543,135
Colorado	121,352	103,509	129,228	124,996	133,212	140,617	148,210	147,900	132,184	130,330	117,594	126,692	1,555,824
Connecticut	117,651	106,992	122,771	119,431	126,593	128,722	132,520	127,234	119,982	130,905	121,328	130,703	1,484,832
Delaware	19,982	27,579	27,202	26,310	46,918	14,536	32,319	32,146	27,392	28,889	26,610	28,402	338,285
Dist. of Col.	12,758	12,160	14,191	14,153	14,984	17,151	16,990	15,929	14,655	15,100	17,800	15,500	181,371
Florida	490,822	469,434	538,746	505,214	492,494	485,506	494,816	486,544	461,068	401,576	401,576	401,576	5,899,372
Georgia	253,617	262,663	279,248	274,993	314,095	293,931	305,693	286,498	284,938	295,840	274,610	294,991	3,421,117
Hawaii	30,484	27,605	32,846	31,789	47,254	31,149	30,858	31,508	33,440	31,267	26,163	30,595	384,958
Idaho	33,100	36,011	34,776	29,569	32,304	34,802	39,783	40,847	52,653	43,013	46,000	39,344	462,202
Illinois	396,287	334,139	393,060	417,114	389,997	414,180	432,654	395,711	407,887	448,197	351,815	391,316	4,772,357
Indiana	196,648	181,124	215,046	319,349	228,768	230,201	232,220	242,695	219,475	239,326	209,859	230,824	2,745,535
Iowa	103,557	88,608	111,781	115,629	115,619	124,832	126,316	112,890	126,497	122,766	104,427	116,848	1,369,770
Kansas	97,401	86,045	98,459	107,216	109,076	115,609	116,396	107,328	106,280	111,987	99,665	109,877	1,265,339
Kentucky	122,176	151,711	144,174	165,514	158,227	169,343	165,568	163,014	152,679	101,591	207,045	154,418	1,855,460
Louisiana	187,911	150,512	171,947	180,778	177,465	176,145	178,687	172,497	165,381	172,394	157,928	171,185	2,062,830
Maine	45,660	45,581	43,580	47,981	48,380	53,705	61,138	59,414	53,684	51,152	49,041	47,280	606,596
Maryland	155,174	152,322	175,267	170,134	186,225	173,850	184,752	174,910	170,706	175,441	170,003	179,585	2,068,369
Massachusetts	196,283	176,137	201,370	201,621	214,150	216,378	224,071	221,253	203,977	220,689	199,799	215,934	2,491,662
Michigan	332,759	306,228	340,025	345,155	367,880	381,222	370,467	415,590	338,080	386,301	353,091	350,938	4,287,736
Minnesota	151,843	137,921	157,904	159,778	162,103	203,297	193,977	188,117	159,806	170,547	178,775	169,040	2,033,108
Mississippi	94,524	85,717	101,271	81,172	119,067	122,633	122,071	118,478	107,536	100,253	99,036	118,297	1,270,055
Missouri	207,570	193,181	219,297	242,052	246,225	212,140	269,876	234,669	227,257	237,158	209,507	233,670	2,732,602
Montana	31,000	26,270	31,213	35,423	37,801	49,547	41,887	44,064	37,982	36,823	32,803	33,368	438,181
Nebraska	53,498	51,179	62,130	63,543	67,461	69,409	76,735	67,129	67,399	72,536	58,005	67,101	776,125
Nevada	45,609	43,725	40,032	46,271	45,604	48,928	51,457	51,529	52,050	40,935	56,335	45,211	567,686
New Hampshire	41,652	39,012	38,798	38,412	41,545	47,098	48,588	47,297	42,537	45,282	41,035	42,911	514,167
New Jersey	274,287	239,800	224,360	292,407	309,901	292,335	350,446	328,901	298,363	315,215	285,161	314,429	3,525,605
New Mexico	54,768	66,489	63,570	71,504	67,826	83,975	71,848	72,279	66,048	66,613	67,010	69,783	821,713
New York	595,125	353,008	514,684	448,336	735,181	552,642	532,054	521,535	420,352	481,504	500,021	514,442	6,168,884
North Carolina	241,822	222,684	275,367	276,589	285,693	285,365	302,236	279,244	301,112	290,607	264,440	292,937	3,318,096
North Dakota	19,183	31,131	16,030	37,337	44,061	39,687	34,457	37,244	32,573	31,732	28,657	29,192	381,284
Ohio	376,351	362,496	404,341	397,102	425,276	465,672	455,991	442,282	402,701	414,690	414,690	414,690	4,876,252
Oklahoma	139,703	135,493	159,310	156,761	198,407	140,201	149,549	143,264	138,616	142,915	130,626	137,972	1,772,817
Oregon	36,005	148,830	98,922	109,606	114,984	117,825	79,944	169,600	110,518	88,364	126,946	109,375	1,312,918
Pennsylvania	346,727	325,880	370,858	378,846	399,714	397,594	415,077	394,443	378,196	409,027	341,219	398,905	4,556,486
Rhode Island	31,477	31,477	31,477	33,258	33,258	33,258	34,011	34,011	34,011	33,445	33,445	33,445	396,573
South Carolina	139,116	125,250	120,711	203,660	148,934	165,760	131,979	128,924	125,554	134,679	123,967	132,227	1,680,761
South Dakota	26,011	22,974	28,111	32,961	33,829	39,779	40,145	37,971	34,406	35,943	27,546	32,851	392,527
Tennessee	217,367	164,479	208,232	202,282	224,245	220,667	232,010	210,048	209,836	212,693	201,707	210,181	2,513,747
Texas	696,876	658,597	741,812	770,910	681,201	759,496	810,108	768,207	739,787	743,251	715,396	771,249	8,856,890
Utah	61,228	50,570	61,848	62,667	64,740	69,079	73,075	70,258	65,256	70,931	48,380	63,457	761,489
Vermont	22,046	20,684	21,469	20,738	22,582	23,735	26,806	26,144	23,893	24,843	21,487	27,805	282,232
Virginia	250,566	202,851	221,990	252,693	243,379	259,492	321,059	250,876	242,398	255,880	227,495	265,067	2,993,746
Washington	53,606	214,194	181,975	118,960	315,045	177,204	217,519	203,545	183,278	183,385	176,567	181,975	2,207,253
West Virginia	53,635	58,597	70,234	65,746	68,825	75,825	75,825	70,687	76,804	64,638	67,005	81,528	829,349
Wisconsin	149,863	118,866	181,852	165,188	175,351	188,933	195,334	182,885	172,471	185,109	163,665	167,087	2,046,604
Wyoming	20,434	17,906	20,108	23,835	26,178	31,522	36,726	33,987	29,641	27,444	21,831	23,797	313,409
U.S. Total	8,716,808	8,213,660	9,233,865	9,493,627	10,046,061	9,905,373	10,233,955	9,899,901	9,342,221	9,563,010	9,203,584	9,655,375	113,507,440

Source: Federal Highway Administration, Monthly Gasoline Reports 1987.

Gasoline Octanes, U.S. Service Stations

		Leaded Regular(a)			Unleaded Regular(b)			Unleaded Premium(c)		
Year	**Season**	**Rsh.**	**Mtr.**	**$\frac{(R+M)^*}{2}$**	**Rsh.**	**Mtr.**	**$\frac{(R+M)^*}{2}$**	**Rsh.**	**Mtr.**	**$\frac{(R+M)^*}{2}$**
1987	Summer	93.3	84.0	88.7	92.0	82.7	87.4	96.8	86.8	91.8
1986-87	Winter	93.1	84.2	88.7	91.7	82.7	87.2	96.7	86.9	91.8
1986	Summer	93.3	84.3	88.8	92.0	82.7	87.3	96.7	86.7	91.7
1985-86	Winter	93.0	84.5	88.8	91.8	82.8	87.3	96.8	86.9	91.8
1985	Summer	92.8	84.8	88.8	91.9	82.8	87.4	96.5	86.8	91.7
1984-85	Winter	92.8	85.2	89.1	91.8	82.9	87.4	96.4	86.8	91.6
1984	Summer	92.9	85.0	89.0	91.6	82.9	87.3	96.5	86.9	91.7
1983-84	Winter	92.7	84.9	88.8	91.7	82.9	87.3	96.1	86.6	91.3
1983	Summer	93.1	84.9	89.0	92.0	82.9	87.5	96.4	86.5	91.4
1982-83	Winter	92.9	85.2	89.1	91.7	82.9	87.3	96.3	86.7	91.5
1982	Summer	93.0	85.0	89.0	91.9	82.8	87.3	96.8	86.6	91.7
1981-82	Winter	92.7	81.1	88.9	91.8	82.9	87.4	96.6	86.8	91.7
1981	Summer	92.8	85.1	89.0	91.9	83.0	87.4	96.3	86.2	91.3
1980-81	Winter	92.8	85.4	89.1	91.9	83.3	87.6	96.1	86.5	91.4
1980	Summer	96.2	85.2	88.9	92.1	83.4	87.8	96.1	86.4	91.6
1979-80	Winter	92.5	85.5	89.0	92.1	83.7	87.9	97.1	87.0	92.1

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*Antiknock index.

(a) Below 93.0 octane. (b) Below 90.0 octane. (c) 90.0 octane and above, also, prior to and including the winter of 1981-1982, the premium grade was leaded gasoline, not unleaded.
Source: Motor Gasolines, Summer 1987, National Institute for Petroleum and Energy Research, Bartlesville, Okla., published March 1988.

Gasoline Octanes, Regional Averages

	Leaded Regular(a)			Unleaded Regular(b)			Unleaded Premium(c)			Alcohol-blended Premium(d)		
	Rsh.	**Mtr.**	**$\frac{(R+M)}{2}$**	**Rsh.**	**Mtr.**	**$\frac{(R+M)}{2}$**	**Rsh.**	**Mtr.**	**$\frac{(R+M)}{2}$**	**Rsh.**	**Mtr.**	**$\frac{(R+M)}{2}$**
Northeast	94.0	84.1	89.1	92.5	82.8	87.7	97.2	86.5	91.9	NS	NS	NS
Mid-Atlantic Coast	94.4	84.2	89.3	92.6	82.4	87.5	97.3	86.7	92.0	98.5	87.2	92.8
Southeast	93.8	84.4	89.1	92.2	82.6	87.4	97.1	86.9	92.1	96.5	85.6	91.1
Appalachian	93.8	84.3	89.1	92.2	82.7	87.5	97.0	87.0	92.0	96.2	87.1	91.7
Michigan	93.6	84.8	89.2	91.9	82.9	87.4	96.7	86.7	91.7	NS	NS	NS
North Illinois	93.7	84.4	89.1	91.6	82.8	87.2	96.2	87.0	91.6	96.0	85.9	91.0
Central Mississippi	93.7	84.5	89.1	91.9	82.9	87.4	96.4	86.9	91.7	97.7	87.5	92.6
Lower Mississippi	94.1	84.2	89.2	92.4	82.4	87.4	97.0	86.6	91.8	97.4	86.2	91.9
North Plains	93.0	84.0	88.5	91.5	82.6	87.1	96.5	87.4	92.0	NS	NS	NS
Central Plains	92.9	84.1	88.5	91.5	83.0	87.3	96.0	86.4	91.2	95.4	85.1	90.3
South Plains	93.9	83.8	88.9	92.0	82.4	87.2	97.2	86.8	92.0	97.3	87.2	92.3
South Texas	94.4	84.0	89.2	92.5	82.4	87.5	96.6	87.0	91.8	98.9	88.6	93.8
South Mountain States	91.8	83.2	87.6	91.4	82.8	87.1	97.1	86.4	91.8	96.8	85.6	91.3
North Mountain States	91.3	83.4	87.3	90.7	82.9	86.8	96.1	86.7	91.4	97.6	86.6	92.1
Pacific Northwest	92.5	84.1	88.3	91.5	82.7	87.1	96.7	86.8	91.7	NS	NS	NS
North California	92.5	83.6	88.1	93.0	83.0	88.1	97.5	86.7	92.1	97.4	85.7	91.6
South California	92.5	83.7	88.3	92.1	82.8	87.5	97.3	86.6	92.0	NS	NS	NS
Average												
Summer 1987	**93.3**	**84.0**	**88.7**	**92.0**	**82.7**	**87.4**	**96.8**	**86.8**	**91.8**	**97.1**	**86.5**	**91.9**
Summer 1986	**93.3**	**84.3**	**88.8**	**92.0**	**82.7**	**87.3**	**96.7**	**86.7**	**91.7**	—	—	—

(a) Below 93 octane; (b) Below 90 octane; (c) 90.0 octane and above; (d) 90.0 octane and above, blended.
Source: Motor Gasolines, Summer 1987, National Institute for Petroleum and Energy Research, Bartlesville, Okla., published March 1988.

State Gasoline Consumption by Rank

State	1987 Rank	1986 Rank	(Add 000) 1987 Gallonage (a)
California	1	1	12,543,135
Texas	2	2	8,856,889
New York	3	3	6,168,882
Florida	4	4	5,899,372
Ohio	5	5	4,976,252
Illinois	6	6	4,772,356
Pennsylvania	7	7	4,456,486
Michigan	8	8	4,287,732
New Jersey	9	9	3,525,605
Georgia	10	10	3,421,116
North Carolina	11	11	3,318,095
Virginia	12	12	2,993,746
Indiana	13	14	2,745,534
Missouri	14	13	2,732,601
Tennessee	15	15	2,513,747
Massachusetts	16	16	2,491,661
Washington	17	20	2,207,253
Alabama	18	22	2,084,218
Maryland	19	21	2,068,369
Louisiana	20	17	2,062,830
Wisconsin	21	18	2,046,604
Minnesota	22	19	2,033,108
Kentucky	23	23	1,855,460
Oklahoma	24	24	1,772,817
Arizona	25	26	1,682,462
South Carolina	26	25	1,680,761
Colorado	27	27	1,555,823
Connecticut	28	28	1,484,832
Iowa	29	29	1,369,769
Oregon	30	30	1,312,919
Mississippi	31	31	1,270,055
Kansas	32	32	1,265,339
Arkansas	33	33	1,241,796
West Virginia	34	34	829,349
New Mexico	35	35	821,713
Nebraska	36	36	776,125
Utah	37	37	761,489
Maine	38	38	606,596
Nevada	39	39	567,686
New Hampshire	40	40	514,166
Idaho	41	41	462,202
Montana	42	42	438,181
Rhode Island	43	44	396,573
South Dakota	44	43	390,527
Hawaii	45	46	384,958
North Dakota	46	45	381,284
Delaware	47	47	338,258
Wyoming	48	48	313,409
Vermont	49	49	282,232
Alaska	50	50	242,278

(a) Preliminary with up to six state totals estimated by NPN based on Federal Highway Administration totals.

Source: Federal Highway Administration, Monthly Gasoline Reports, 1987.

Unleaded Gasolines Dominate Marketplaces

There was no letup in 1987 in the way that unleaded gasoline is pushing leaded gasoline into oblivion.

Unleaded gasoline sales rose almost 7% last year, hitting an all-time high average of 5,447,000 b/d. This was 75.8% of total gasoline sales, meaning that unleaded gasoline demand was three times that of leaded gasoline last year.

Unleaded gasoline sales have been rising steadily through the years, exerting downward pressure on the leaded variety. It is anticipated that by the early 1990s, leaded gasoline will be virtually a specialty product that'll be hard to find in most parts of the U.S.

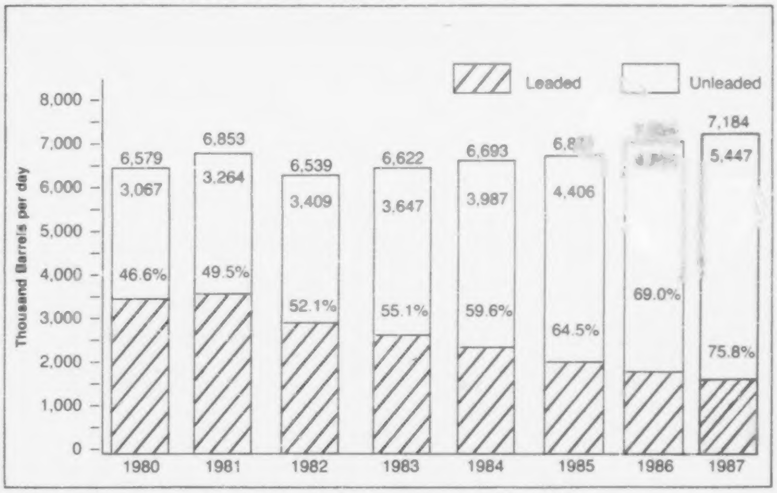
An interesting aspect of the 1987 picture was that total gasoline sales averaged 7,184,000 b/d. This is the second highest annual average in history, being exceeded only by the 1978 peak of 7,412,000 b/d.

It is true, of course, that pump sales averaged more than 7,412,000 b/d in the summer driving months in 1987 but that was for only a limited period. Back in 1978, the hot weather demand also exceeded the annual average by substantial amounts.

Unleaded gasoline was mandated by the federal government in 1978. When it first came on the market it was lucky to capture one out of every four gallons sold. By 1981, unleaded sales were about half the market, and by 1985 unleaded gasoline had a two-to-one edge over leaded gasoline. The gap grew wider in 1987, with unleaded gasoline now accounting for three out of every four gallons sold in U.S. marketplaces.

These changes are being reflected in the retail markets. Already a number of oil companies have discontinued leaded sales and have added a mid-grade unleaded so that consumers will continue to have three choices of motor fuels.

Unleaded vs. Leaded Motor Gasoline. 1980-1987



Source: Energy Information Administration, Petroleum Supply Monthly, February 1988.

Gasohol Consumption by States—1986[a]

The following table, prepared by the Federal Highway Administration, contains a variety of caveats, as follows: the table shows gross gallons of gasohol reported by the distributors in each state. However, this total must not be considered a national total. In states where gasohol is taxed at the same rate as gasoline, the gallonage data are not reported separately and is commingled with gasoline data. In other states, however, partial tax exemptions have been legislated but the reporting systems have not yet been converted for separate reporting. In any case, the totals should be considered minimums and not maximums.

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	21,252	13,109	18,172	21,528	22,993	22,769	23,596	22,403	20,894	22,015	23,207	29,348	261,286
Alaska	—	—	—	—	—	12	39	28	19	27	25	21	171
Arizona	—	—	—	—	—	—	—	—	—	—	—	—	—
Arkansas	—	—	—	—	—	—	—	—	—	—	—	—	—
California	11,920	8,884	9,751	9,731	11,085	12,434	17,819	20,507	19,736	22,015	21,320	23,844	189,046
Colorado	15,319	11,229	11,910	9,526	8,433	5,616	3,116	1,301	1,474	2,398	—	141	70,463
Connecticut	1,711	1,623	1,339	213	437	—	—	—	—	—	—	—	5,323
Delaware	—	—	—	—	—	—	—	—	—	—	—	—	—
Dist. of Col.	8	2	20	26	22	15	20	11	21	18	25	17	205
Florida	41,448	38,806	39,646	33,984	32,426	28,936	26,552	25,977	20,487	15,627	15,638	14,514	334,041
Georgia	—	—	—	—	—	—	—	—	—	—	—	—	—
Hawaii	—	—	—	—	—	—	—	—	—	—	—	—	—
Idaho	2,281	2,565	2,214	2,026	2,658	2,831	4,779	446	358	384	680	794	22,016
Illinois	115,717	103,239	112,346	107,263	111,632	104,188	100,346	106,314	100,706	104,404	106,714	113,959	1,286,828
Indiana	55,960	50,264	53,372	56,323	62,065	58,065	53,160	59,775	53,900	59,312	59,229	47,213	668,638
Iowa	31,959	32,546	36,357	34,488	34,620	30,224	31,020	32,948	27,644	31,342	27,849	34,133	385,130
Kansas	22,178	20,021	23,390	21,666	20,919	18,832	19,901	20,099	17,429	17,657	15,130	15,382	232,604
Kentucky	57,067	53,615	46,369	60,682	62,150	62,473	82,510	41,582	75,651	65,700	64,960	63,590	736,349
Louisiana	19,507	17,881	22,798	21,690	23,064	21,893	25,621	34,725	48,893	34,297	30,051	35,767	336,187
Maine	—	—	—	—	—	—	—	—	—	—	—	—	—
Maryland	416	83	1	—	—	—	—	—	1	—	—	—	501
Massachusetts	—	—	—	—	—	—	—	—	—	—	—	—	—
Michigan	26,461	25,283	27,879	31,844	32,857	34,342	35,476	31,638	31,631	34,614	33,734	36,251	382,010
Minnesota	55,051	48,226	43,120	35,259	36,707	29,261	26,572	21,676	18,902	18,063	20,906	20,289	374,032
Mississippi	—	—	—	—	—	—	—	—	—	—	—	—	—
Missouri	1,193	1,193	1,193	1,193	1,193	1,193	1,193	1,193	1,193	1,193	1,193	1,193	14,316
Montana	349	118	174	323	233	99	178	81	663	439	419	378	3,454
Nebraska	18,634	16,508	20,443	19,892	19,160	18,427	17,264	16,625	15,489	18,257	14,927	20,730	216,356
Nevada	206	219	203	240	406	378	374	2,838	2,842	2,529	3,561	4,854	18,650
New Hampshire	—	—	—	—	—	—	—	—	—	—	—	—	—
New Jersey	—	—	—	—	—	—	—	—	—	—	—	—	—
New Mexico	3,926	4,498	7,344	7,190	4,037	3,209	3,601	3,872	4,094	5,380	5,483	6,118	58,752
New York	—	—	—	—	—	—	—	—	—	—	—	—	—
North Carolina	—	—	—	—	—	—	—	—	—	—	—	—	—
North Dakota	3,309	4,853	5,029	5,231	5,761	9,023	3,835	4,743	8,317	1,634	7,789	5,803	65,327
Ohio	63,478	57,834	58,329	70,500	70,487	64,086	75,023	65,995	66,530	74,164	69,231	78,922	814,579
Oklahoma	1,962	1,532	8,818	268	14,414	—	—	—	—	—	—	—	26,994
Oregon	—	—	—	—	—	—	—	—	—	—	—	—	—
Pennsylvania	—	—	—	—	—	—	—	—	—	—	—	—	—
Rhode Island	—	—	—	—	—	—	—	—	—	—	—	—	—
South Carolina	220	39	627	488	332	1	746	319	8,435	2,769	307	1,267	15,550
South Dakota	4,536	4,466	5,428	5,360	6,217	5,463	6,331	5,351	4,653	5,294	4,666	5,719	63,484
Tennessee	31,469	33,984	31,464	23,528	39,470	19,442	30,072	30,724	29,618	33,450	53,239	38,009	394,469
Texas	30,097	22,132	25,031	24,386	30,947	28,308	32,413	26,330	30,390	33,829	36,445	41,435	362,243
Utah	715	367	485	518	257	6	—	—	—	—	22	39	2,409
Vermont	—	—	—	—	—	—	—	—	—	—	—	—	—
Virginia	40,690	37,946	44,174	42,846	41,331	42,491	35,029	30,889	24,876	28,001	26,400	29,036	423,709
Washington	584	613	1,066	240	313	2,372	2,637	671	6,874	1,001	6,857	3,569	26,797
West Virginia	—	—	—	—	—	—	—	—	—	—	—	—	—
Wisconsin	1,661	1,437	1,172	1,545	1,895	1,757	1,365	1,403	1,116	803	499	659	15,312
Wyoming	11	9	3	2	3	3	4	3	3	4	5	5	55
U.S. Total	**681,295**	**615,124**	**659,667**	**649,999**	**698,524**	**628,149**	**660,592**	**610,967**	**642,839**	**636,620**	**650,511**	**672,999**	**7,807,286**

(a) This table shows gross gallons of gasohol (ethanol blends) reported by the states. The data are obtained from state taxation reports. In states where gasohol is taxed at the same rate as gasoline, some gasohol gallonage may be commingled with gasoline data.

Source: Federal Highway Administration, Monthly Gasoline Reports, June 1987.

Gasohol Consumption by States—1987

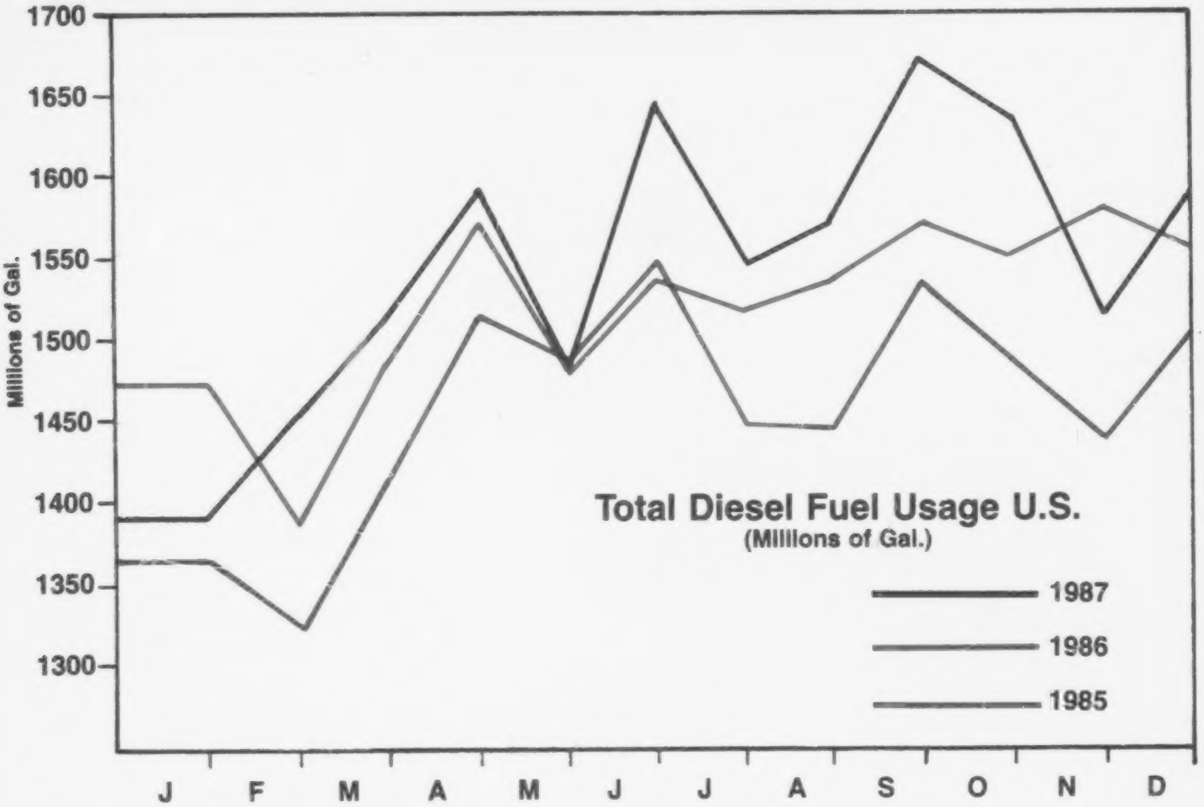
This table, prepared by Federal Highway Administration, shows gross gallons of gasohol (ethanol blends) reported by the various states. The data are obtained from the state taxation reports. In states where gasohol is taxed at the same rate as gasoline, some gasohol gallonage may be commingled with gasoline data. At any rate, this is a preliminary report and upward revisions may be expected on the basis of later data. This report indicates there was a small increase in gasohol sales in 1987.

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	29,193	34,495	44,984	50,800	51,156	44,372	35,494	33,218	32,097	34,559	34,780	41,107	466,255
Alaska	27	14	22	20	20	31	23	65	46	41	48	24	381
Arizona	—	—	—	—	—	—	—	—	—	—	—	—	—
Arkansas	—	—	—	—	—	—	—	—	—	—	—	—	—
California	22,786	21,934	23,176	25,296	19,949	19,276	16,536	19,333	18,421	18,253	21,619	26,132	252,711
Colorado	—	—	—	—	—	—	5,866	3,064	3,494	2,762	3,048	13,206	31,440
Connecticut	—	—	—	—	—	—	—	—	—	—	—	—	—
Delaware	—	—	—	—	—	—	—	—	—	—	—	—	—
Dist. of Col.	9	11	10	43	27	43	38	42	45	18	25	17	328
Florida	11,859	13,025	15,353	15,426	15,323	14,192	10,018	7,941	7,205	12,260	12,260	12,260	147,122
Georgia	—	—	—	—	—	—	—	—	—	—	—	—	—
Hawaii	—	—	—	—	—	—	—	—	—	—	—	—	—
Idaho	803	1,128	1,326	1,225	1,310	2,506	1,549	2,357	4,034	2,260	3,229	2,480	24,207
Illinois	94,699	106,704	108,614	104,815	109,171	115,857	116,685	111,363	105,081	105,160	111,815	111,815	1,341,779
Indiana	59,390	53,707	59,390	60,048	60,702	61,621	58,976	58,182	51,521	56,397	57,793	57,793	685,520
Iowa	30,902	26,891	34,508	34,076	33,696	35,826	38,105	30,050	35,153	32,185	31,638	33,998	397,028
Kansas	13,920	12,620	14,132	16,678	17,737	14,082	8,879	7,772	7,359	8,963	8,057	9,632	139,831
Kentucky	65,391	53,606	53,271	71,906	69,832	65,279	83,861	55,136	62,689	63,949	58,199	54,271	757,390
Louisiana	25,930	33,900	38,948	36,997	2,383	18,113	17,969	18,102	17,717	14,515	9,426	18,975	252,975
Maine	—	—	—	—	—	—	—	—	—	—	—	—	—
Maryland	—	—	—	—	—	—	—	—	—	—	—	—	—
Massachusetts	—	—	—	—	—	—	—	—	—	—	—	—	—
Michigan	32,173	34,208	38,880	38,578	42,345	42,481	43,324	42,380	40,293	44,257	39,959	44,018	482,896
Minnesota	19,256	17,647	20,532	20,377	22,755	20,714	17,758	16,490	14,620	14,191	15,648	14,017	214,005
Mississippi	—	—	—	—	—	—	—	—	—	—	—	—	—
Missouri	—	—	—	—	—	—	—	—	—	—	—	—	—
Montana	357	74	350	101	72	167	268	277	181	153	130	321	2,451
Nebraska	16,890	17,317	20,401	19,350	21,736	21,322	21,953	20,524	20,081	21,676	18,622	22,112	241,984
Nevada	4,765	7,330	4,612	4,716	6,793	4,427	5,346	2,812	4,265	2,463	7,520	3,828	58,877
New Hampshire	—	—	—	—	—	—	—	—	—	—	—	—	—
New Jersey	—	—	—	—	—	—	—	—	—	—	—	—	—
New Mexico	4,986	4,810	3,716	9,716	5,762	18,949	7,921	8,856	6,704	10,109	8,167	9,614	99,310
New York	—	—	—	—	—	—	—	—	—	—	—	—	—
North Carolina	—	—	—	—	—	—	—	—	—	—	—	—	—
North Dakota	6,243	9,491	4,326	9,902	9,030	5,126	3,921	2,951	2,749	3,006	2,755	3,226	62,726
Ohio	63,877	64,753	80,446	72,344	67,323	89,313	75,330	72,706	77,370	73,740	73,740	73,740	807,312
Oklahoma	—	—	—	—	—	—	—	—	—	—	—	—	—
Oregon	—	—	—	—	—	—	—	—	—	—	—	—	—
Pennsylvania	—	—	—	—	—	—	—	—	—	—	—	—	—
Rhode Island	—	—	—	—	—	—	—	—	—	—	—	—	—
South Carolina	1,620	4,071	1,681	4,556	672	3,932	130	4,455	—	7,222	4,586	4,722	37,657
South Dakota	4,638	4,346	5,238	5,423	5,472	5,225	5,100	4,491	4,516	4,965	4,663	5,081	59,158
Tennessee	16,220	21,064	13,515	20,607	26,522	38,493	31,939	16,037	18,006	26,120	16,700	38,309	283,532
Texas	20,540	43,975	29,401	55,742	57,392	49,969	37,273	30,053	30,576	34,470	34,147	30,964	454,502
Utah	17	189	20	—	—	—	—	—	—	—	—	—	226
Vermont	—	—	—	—	—	—	—	—	—	—	—	—	—
Virginia	24,625	23,451	27,381	27,828	27,932	27,782	30,706	25,852	23,201	25,019	20,423	26,074	310,274
Washington	506	7,384	4,707	4,628	9,387	1,326	7,826	4,540	4,083	3,903	4,807	4,707	57,804
West Virginia	—	—	—	—	—	—	—	—	—	—	—	—	—
Wisconsin	870	789	968	766	1,334	1,152	736	1,053	853	453	685	579	10,238
Wyoming	5	2	3	6	5	4	5	5	5	2	4	4	50
U.S. Total	**572,497**	**618,936**	**649,911**	**711,970**	**685,838**	**721,580**	**683,535**	**600,107**	**592,635**	**663,071**	**610,993**	**653,394**	**7,764,197**

Source: Federal Highway Administration, Monthly Gasoline Reports 1987.

Diesel Fuel Consumption Trends



Diesel Fuel Consumption by States

	Rank		Gallonage		%
	1987	1986	1987(a)	1986	Change
Alabama	16	16	409,826	375,521	9.1%
Alaska	44	42	62,398	99,173	(37.1)
Arizona	30	27	267,290	285,885	(6.5)
Arkansas	22	23	328,659	302,446	8.7
California	1	1	1,696,704	1,602,660	5.9
Colorado	34	33	186,272	190,733	(2.3)
Connecticut	32	35	190,925	182,888	4.4
Delaware	45	46	59,494	53,934	10.3
Dist. of Col.	—	—	22,096	21,449	3.0
Florida	5	5	785,756	748,952	4.9
Georgia	6	6	782,834	724,289	8.1
Hawaii	49	50	21,346	20,542	3.9
Idaho	41	41	104,170	100,003	4.4
Illinois	7	7	739,434	718,119	3.0
Indiana	8	8	707,477	695,319	2.0
Iowa	23	26	324,203	293,887	10.3
Kansas	17	29	396,533	273,425	45.0
Kentucky	20	19	357,335	369,587	3.4
Louisiana	21	20	346,668	359,600	(3.6)
Maine	36	36	159,320	143,716	10.9
Maryland	28	28	293,067	280,607	4.4
Massachusetts	29	30	284,134	268,407	5.9
Michigan	11	11	518,342	485,500	6.8
Minnesota	25	25	317,188	294,274	7.8
Mississippi	27	24	303,056	300,682	0.8
Missouri	14	12	493,178	482,368	2.2
Montana	40	40	108,341	107,192	1.1
Nebraska	31	32	203,619	192,745	6.7
Nevada	39	43	120,910	99,153	10.9
New Hampshire	47	47	55,665	51,934	7.2
New Jersey	15	15	453,482	453,759	0.0
New Mexico	33	34	189,735	187,719	1.1
New York	13	13	505,774	478,348	5.7
North Carolina	9	9	587,480	560,102	4.9
North Dakota	43	45	91,005	90,175	0.9
Ohio	4	4	823,202	813,964	(1.1)
Oklahoma	19	17	388,470	372,520	4.3
Oregon	(b)	31	—(b)	249,852	—
Pennsylvania	3	3	874,995	827,299	5.8
Rhode Island	46	48	56,217	45,579	23.3
South Carolina	26	22	307,507	331,059	(7.1)
South Dakota	42	44	92,564	93,517	(1.0)
Tennessee	10	10	565,029	530,446	6.5
Texas	2	2	1,335,616	1,466,522	(8.9)
Utah	37	37	148,912	142,313	4.6
Vermont	48	49	51,242	41,022	24.9
Virginia	12	14	508,085	476,118	6.7
Washington	24	21	318,408	339,108	(6.0)
West Virginia	38	38	125,821	135,338	(7.0)
Wisconsin	18	18	389,056	371,485	4.7
Wyoming	35	39	184,249	133,942	37.6
Total U.S.			**18,603,363**	**18,264,507**	**1.9**

(a) Preliminary and includes some estimates by *NPN* for late-reporting states; (b) Oregon discontinued diesel reports.
Source: Federal Highway Administration, Monthly Gasoline Reports 1987.

Highway Diesel Sales by States 1986

Diesel Sales for motor vehicles—passenger cars, trucks and buses—climbed another 3.7% in 1986, continuing the upward swing of recent years. On-highway consumption amounted to 17.9-billion gal., compared with 17.3-billion gal. in 1985.

Off-highway sales—primarily for construction equipment and farms but occasionally including utilities for power generation—rose a spanking 9% in 1986, offsetting 1985's decline of 9%. The 1985 consumption was revised downward to 1.5-billion gal. in the latest set of figures.

(Add 000 gal.)

	On-Highway			Off-Highway		
	1985	1986	% Change	1985	1986	% Change
PAD District 1						
New England States						
Connecticut	183,726	179,230	(2.4%)	7,249	7,011	(3.3%)
Maine	125,975	140,312	11.4	6,515	11,240	72.5
Massachusetts	245,057	267,065	9.0	10,396	12,677	21.9
New Hampshire	42,239	50,895	20.5	8,067	7,638	(5.3)
Rhode Island	11,775	44,667	279.3	2,772	3,380	21.9
Vermont	38,737	40,202	3.8	3,784	6,768	44.0
Central Atlantic States						
Delaware	50,528	52,855	4.6	2,366	2,395	(1.2)
District of Columbia	20,987	21,413	2.0	610	222	(63.6)
Maryland	238,103	274,995	15.5	42,234	25,368	(39.3)
New Jersey	445,512	450,858	1.3	27,778	36,951	33.0
New York	518,586	614,646	18.5	47,537	25,895	(45.5)
Pennsylvania	769,798	810,753	5.3	49,352	61,634	24.9
Lower Atlantic States						
Florida	706,762	680,975	(3.6)	75,447	63,481	(15.9)
Georgia	664,749	710,528	(6.9)	44,913	36,866	(17.9)
North Carolina	512,560	548,890	7.1	26,565	30,968	16.6
South Carolina	293,068	293,541	—	16,738	22,880	36.7
Virginia	473,519	468,608	7.1	29,333	36,231	23.5
West Virginia	121,288	132,361	9.1	22,427	29,360	30.9
Total	**5,426,879**	**5,782,794**	**6.6**	**1,522,041**	**1,659,365**	**9.0**
PAD District 2						
Illinois	586,969	695,139	15.6	28,108	55,702	98.2
Indiana	693,369	681,413	(1.7)	9,021	14,190	57.3
Iowa	298,367	288,303	(3.4)	15,400	11,446	(25.7)
Kansas	260,522	253,237	(2.8)	20,731	24,690	19.1
Kentucky	329,045	368,109	11.9	19,802	28,712	45.0
Michigan	454,673	478,218	5.2	34,530	35,543	2.9
Minnesota	289,062	288,389	—	26,716	22,657	(15.2)
Missouri	448,082	472,721	5.5	30,606	14,865	(51.4)
Nebraska	186,417	188,890	1.3	20,354	17,673	(13.2)
North Dakota	93,017	87,289	(6.2)	5,888	7,299	24.0
Ohio	831,466	797,685	(4.1)	82,131	37,379	(54.5)
Oklahoma	387,890	368,795	(4.9)	48,886	41,613	(14.9)
South Dakota	95,079	90,150	(5.2)	3,848	9,497	146.8
Tennessee	513,316	527,263	2.7	39,131	67,809	73.3
Wisconsin	349,753	364,055	4.1	15,053	26,044	73.0
Total	**5,817,027**	**5,949,656**	**2.3**	**399,842**	**415,120**	**3.8**
PAD District 3						
Alabama	357,980	368,011	2.8	31,515	28,734	(8.8)
Arkansas	288,154	295,187	(2.4)	20,921	22,615	8.1
Louisiana	325,752	349,332	7.2	42,437	37,313	(12.1)
Mississippi	280,338	287,753	2.6	34,332	20,194	(41.2)
New Mexico	177,728	182,996	3.0	22,423	24,148	7.7
Texas	1,550,477	1,437,192	(7.3)	67,528	205,796	204.8
Total	**2,980,429**	**2,920,471**	**(2.0)**	**219,156**	**338,779**	**7.7**
PAD District 4						
Colorado	199,169	186,918	(6.2)	22,851	46,606	104.0
Idaho	97,057	98,003	1.0	7,248	11,332	56.3
Montana	106,862	105,048	(1.7)	113,792	113,791	—
Utah	132,393	139,467	5.3	7,377	25,122	240.5
Wyoming	115,572	102,219	(11.6)	22,118	22,094	—
Total	**651,053**	**631,655**	**(3.0)**	**173,386**	**118,945**	**(31.4)**
PAD District 5						
Alaska	106,978	97,190	(9.1)	31,254	15,828	(49.4)
Arizona	267,552	280,167	4.7	21,942	50,053	128.1
California	1,387,378	1,570,607	13.2	165,497	173,248	4.7
Hawaii	18,589	19,618	5.5	2,405	5,075	111.0
Nevada	92,782	97,170	4.7	17,298	31,625	82.3
Oregon	243,977	244,854	—	32,334	33,817	4.6
Washington	287,006	332,326	16.0	34,843	55,909	60.5
Total	**2,404,262**	**2,641,932**	**9.9**	**305,573**	**356,556**	**16.7**
U.S. Total	**17,279,650**	**17,926,508**	**3.7%**	**1,522,041**	**1,659,365**	**9.0%**

Source: Energy Information Administration, Petroleum Marketing Monthly, July 1987.

Diesel Fuel Consumption by States—1986[a]

The table below, prepared by the Federal Highway Administration, shows gross gal. of special fuels, but this is primarily diesel fuel. Included are small amounts of liquefied petroleum gas. In most cases, FHA says, the data reflect retail sales, although few states tax special fuels at the wholesale level. This report includes some estimates.

(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	36,028	28,148	27,683	42,473	24,723	28,419	40,722	26,325	27,078	36,886	32,468	24,568	375,521
Alaska	5,435	17,316	10,334	12,785	4,165	−901	6,104	20,051	−6,856	17,995	6,104	6,641	99,173
Arizona	22,370	19,136	23,617	20,167	23,321	25,419	28,688	19,503	29,431	21,698	23,440	29,095	285,885
Arkansas	22,719	23,323	26,514	25,522	23,203	28,117	25,485	26,055	28,126	9,163	41,533	22,686	302,446
California	**123,181**	**123,181**	**123,181**	**126,913**	**126,913**	**126,913**	**140,020**	**140,020**	**140,020**	**144,106**	**144,106**	**144,106**	**1,602,660**
Colorado	**10,896**	**17,094**	**17,791**	**14,635**	**15,841**	**19,907**	**15,065**	**15,530**	**18,513**	**11,547**	**17,636**	**16,278**	**190,733**
Connecticut	**14,396**	**12,257**	**15,807**	**16,651**	**15,843**	**14,758**	**15,450**	**16,756**	**15,881**	**17,167**	**12,821**	**15,101**	**182,888**
Delaware	**5,638**	**4,489**	**3,062**	**5,133**	**4,983**	**2,994**	**4,699**	**4,869**	**3,039**	**5,091**	**4,652**	**4,665**	**53,934**
Dist. of Col.	1,891	1,719	1,763	1,828	1,942	1,851	1,966	1,931	1,302	1,959	1,566	1,781	21,499
Florida	64,885	62,165	66,154	65,963	64,652	59,403	58,256	58,514	58,366	66,070	59,282	65,242	748,952
Georgia	63,404	54,439	54,478	68,707	63,104	57,211	63,670	59,071	63,400	61,628	56,855	58,322	724,289
Hawaii	1,514	1,460	1,567	1,807	1,602	2,374	1,335	1,653	1,347	2,077	1,685	2,121	20,542
Idaho	**11,687**	**12,649**	**1,158**	**10,618**	**11,040**	**1,227**	**13,619**	**10,589**	**920**	**13,897**	**11,730**	**869**	**100,003**
Illinois	**60,968**	**49,165**	**50,504**	**53,522**	**59,045**	**60,656**	**68,630**	**60,337**	**63,726**	**67,793**	**59,415**	**64,358**	**718,119**
Indiana	**60,263**	**50,959**	**58,891**	**62,423**	**58,175**	**83,542**	**33,743**	**90,925**	**29,325**	**57,061**	**64,519**	**45,493**	**695,319**
Iowa	**18,043**	**21,108**	**25,990**	**23,780**	**19,372**	**31,691**	**20,618**	**21,926**	**32,746**	**26,671**	**20,858**	**31,084**	**293,887**
Kansas	18,405	21,419	20,359	24,658	25,630	23,952	26,489	17,838	26,553	18,345	31,018	18,759	273,425
Kentucky	30,721	26,381	31,065	29,335	30,114	31,516	25,870	31,292	27,282	29,861	42,377	33,773	369,587
Louisiana	38,599	29,748	24,676	30,023	22,916	34,538	27,667	24,074	31,164	32,985	32,735	30,475	359,600
Maine	11,331	11,833	9,546	10,221	13,723	9,875	11,984	13,440	10,747	13,195	12,323	14,958	143,176
Maryland	**21,300**	**20,153**	**24,909**	**22,663**	**23,598**	**25,179**	**25,685**	**20,973**	**23,716**	**26,464**	**20,051**	**25,916**	**280,607**
Massachusetts	**19,024**	**19,892**	**21,705**	**23,371**	**20,528**	**23,040**	**22,868**	**21,965**	**25,517**	**23,601**	**19,833**	**27,063**	**268,407**
Michigan	**36,211**	**28,928**	**38,616**	**51,319**	**33,497**	**47,497**	**36,121**	**33,541**	**53,961**	**36,767**	**30,394**	**58,648**	**485,500**
Minnesota	**19,855**	**20,691**	**25,572**	**22,973**	**23,651**	**28,444**	**24,377**	**25,480**	**28,275**	**24,197**	**27,711**	**25,048**	**294,274**
Mississippi	26,518	19,241	24,206	31,344	20,500	23,875	29,482	22,217	30,074	27,095	22,142	23,988	300,682
Missouri	36,145	32,219	39,154	49,725	26,881	41,618	47,756	32,961	49,552	45,461	35,100	45,796	482,368
Montana	10,890	5,569	7,729	10,459	6,636	9,446	11,325	6,505	10,422	11,715	7,060	9,436	107,192
Nebraska	12,758	14,961	17,529	13,826	17,398	17,850	13,763	17,683	18,049	15,284	16,517	17,127	192,745
Nevada	**2,192**	**19,257**	**1,056**	**4,908**	**16,619**	**2,078**	**9,738**	**15,284**	**1,236**	**3,174**	**22,528**	**1,083**	**99,153**
New Hampshire	**6,668**	**833**	**3,815**	**4,976**	**2,734**	**5,069**	**4,986**	**2,419**	**5,449**	**5,350**	**3,302**	**6,333**	**51,934**
New Jersey	**38,014**	**39,402**	**34,132**	**41,081**	**37,474**	**38,760**	**37,777**	**34,644**	**38,452**	**38,153**	**35,371**	**40,319**	**453,579**
New Mexico	**41,162**	**6,111**	**1,246**	**36,643**	**8,279**	**940**	**32,158**	**12,953**	**1,200**	**29,014**	**17,025**	**988**	**187,719**
New York	38,691	37,989	38,876	37,570	42,791	40,673	37,916	42,398	39,495	43,020	39,706	39,223	478,348
North Carolina	29,469	49,551	56,171	39,943	46,431	57,662	37,118	44,787	56,096	16,152	74,503	52,219	560,102
North Dakota	4,457	3,479	6,024	8,630	6,032	12,527	7,327	5,160	14,323	2,651	13,050	6,515	90,175
Ohio	67,418	60,842	64,011	72,082	66,424	62,792	64,552	73,654	73,130	73,771	71,655	63,633	813,964
Oklahoma	**28,012**	**30,283**	**36,163**	**32,368**	**28,201**	**36,575**	**29,022**	**27,903**	**35,303**	**25,735**	**26,033**	**36,922**	**372,520**
Oregon	**20,821**	**20,821**	**20,821**	**20,821**	**20,821**	**20,821**	**20,821**	**20,821**	**20,821**	**20,821**	**20,821**	**20,821**	**249,852**
Pennsylvania	**67,197**	**61,507**	**67,532**	**70,808**	**69,744**	**69,308**	**69,074**	**69,592**	**71,114**	**76,170**	**67,514**	**67,739**	**827,299**
Rhode Island	**2,826**	**2,826**	**2,826**	**2,879**	**2,879**	**2,879**	**4,495**	**4,495**	**4,495**	**4,993**	**4,993**	**4,993**	**45,579**
South Carolina	23,889	19,820	32,029	27,064	27,481	32,536	23,333	22,767	36,253	32,413	21,947	31,527	331,059
South Dakota	7,790	7,205	7,458	7,171	7,895	7,681	8,038	8,015	7,489	7,876	7,633	9,266	93,517
Tennessee	42,733	29,618	51,700	41,957	39,638	52,299	36,714	44,939	55,401	47,252	34,385	53,810	530,446
Texas	124,135	123,650	137,734	126,312	118,038	84,201	134,795	128,189	119,001	132,048	116,726	121,693	1,466,522
Utah	**17,172**	**10,793**	**4,674**	**5,005**	**21,891**	**11,927**	**5,603**	**22,823**	**6,318**	**7,681**	**20,564**	**7,864**	**142,313**
Vermont	**2,415**	**5,323**	**2,314**	**2,854**	**4,890**	**2,849**	**1,673**	**6,676**	**2,776**	**1,320**	**6,905**	**427**	**41,022**
Virginia	**35,887**	**37,314**	**36,653**	**42,178**	**34,600**	**49,627**	**39,786**	**40,541**	**39,948**	**44,469**	**37,835**	**37,278**	**476,116**
Washington	**16,610**	**26,152**	**29,966**	**28,739**	**44,322**	**35,086**	**25,083**	**18,985**	**39,517**	**18,994**	**33,221**	**22,433**	**339,108**
West Virginia	9,738	10,454	10,833	12,936	11,282	6,681	11,831	10,351	12,528	17,793	9,100	11,811	135,338
Wisconsin	28,257	24,140	36,376	25,761	28,601	37,055	26,448	29,788	38,891	29,746	29,003	37,419	371,485
Wyoming	11,043	8,615	10,487	8,911	10,830	12,133	11,965	12,819	11,951	5,551	10,532	19,105	133,942
U.S. Total	**1,471,671**	**1,385,628**	**1,486,457**	**1,574,441**	**1,480,893**	**1,540,570**	**1,521,712**	**1,542,027**	**1,572,861**	**1,551,126**	**1,580,283**	**1,556,838**	**18,264,507**

(a) This table shows gross gallons of special fuels (primarily diesel fuel with small amounts of liquefied petroleum gas) reported by the State Motor Fuel tax agencies. The data are not adjusted by FHWA. In most cases, the data reflect retail sales. Although a few states tax special fuels at the wholesale level. In some cases, corrections for Interstate Motor Carrier gallonage have not been made. Highway use of special fuels by month is reported in table MF-25 in the annual publication, "Highway Statistics."

Source: Federal Highway Administration, Monthly Gasoline Reports, June 1987.

Diesel Fuel Consumption by States—1987

The table below, prepared by the Federal Highway Administration, shows gross gallons of special fuels, but this is primarily diesel fuel. Included are small amounts of liquefied petroleum gases. In most cases, FHA says, the data reflect retail sales. This is a preliminary report for 1987 and includes some estimates by NPN to offset late reporting by some states.

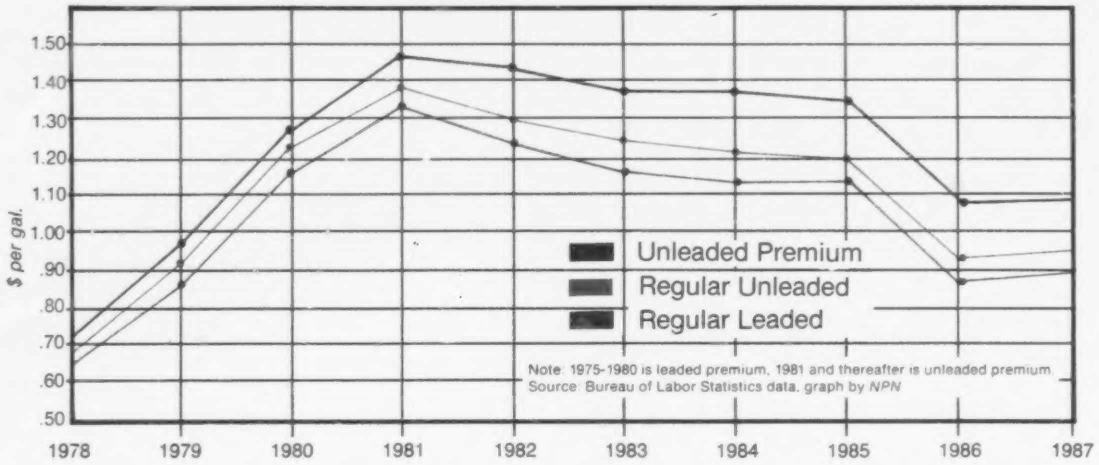
(Add 000 gal.)

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Alabama	36,156	32,112	28,031	35,432	36,189	28,867	45,579	29,000	34,875	40,775	32,278	30,530	409,826
Alaska	1,885	449	3,173	10,114	7,491	5,011	−6,018	−11,985	9,971	3,386	3,697	11,054	62,398
Arizona	19,452	16,626	20,200	23,444	23,883	23,962	28,907	21,720	22,274	22,274	22,274	22,274	267,290
Arkansas	19,113	33,293	27,554	24,635	25,725	31,010	28,638	26,927	29,480	11,307	42,898	28,079	328,659
California	132,305	132,305	132,305	139,512	139,512	139,512	152,359	152,359	152,359	141,392	141,392	141,392	1,696,704
Colorado	11,178	15,883	15,341	14,633	14,396	19,148	15,844	14,814	17,652	16,225	13,958	17,200	186,272
Connecticut	15,047	13,561	13,607	15,968	15,707	16,883	16,662	15,980	16,939	16,624	16,322	17,625	190,925
Delaware	4,304	5,791	3,303	5,376	5,589	6,464	6,559	5,481	3,224	4,664	5,720	3,019	59,494
Dist. of Col.	1,563	1,856	1,872	1,994	1,735	2,137	1,922	1,849	1,766	2,000	1,600	1,800	22,096
Florida	64,643	66,054	70,073	69,005	66,740	67,902	60,661	63,120	61,121	65,479	65,479	65,479	785,756
Georgia	59,159	58,049	63,626	70,136	65,124	73,097	70,855	53,243	71,720	70,205	65,395	62,225	782,834
Hawaii	2,240	1,381	1,650	2,295	1,615	1,634	2,027	1,827	2,080	2,148	1,342	1,117	21,346
Idaho	12,405	12,696	1,148	12,630	1,075	10,747	12,366	11,788	1,492	11,672	10,158	5,993	104,170
Illinois	62,163	51,714	60,833	64,555	[illegible]	64,101	66,961	61,243	63,127	69,366	54,449	60,563	739,434
Indiana	57,065	54,189	64,503	68,263	57,989	51,581	56,423	78,137	42,615	88,241	44,325	44,146	707,477
Iowa	23,184	20,508	31,270	24,398	20,158	31,933	25,331	26,512	35,196	27,854	27,607	30,252	324,203
Kansas	36,454	35,109	19,419	48,179	33,200	20,548	18,239	35,823	49,307	12,824	27,979	19,452	396,533
Kentucky	24,685	28,826	30,630	28,764	29,463	30,936	29,790	29,678	30,582	26,434	35,955	31,592	357,335
Louisiana	26,296	23,205	33,934	28,548	26,377	34,306	27,038	25,144	33,502	31,073	24,702	32,543	346,668
Maine	9,785	15,960	13,218	9,949	13,939	11,973	10,590	15,124	14,672	17,169	19,084	7,857	159,320
Maryland	21,792	21,590	24,353	24,015	23,174	24,817	26,132	25,630	28,351	22,647	25,177	25,389	293,067
Massachusetts	21,438	19,881	21,189	27,298	20,861	27,841	24,455	21,130	25,749	25,705	21,438	27,149	284,134
Michigan	32,215	31,621	50,452	44,555	33,257	61,800	34,838	34,958	61,508	39,013	35,564	58,561	518,342
Minnesota	22,908	20,723	26,005	24,979	25,120	30,764	26,437	27,687	24,341	33,376	27,830	27,018	317,188
Mississippi	27,705	19,914	26,336	27,051	23,048	27,413	26,540	21,491	27,053	30,129	24,184	22,192	303,056
Missouri	40,994	30,194	51,900	38,126	37,697	41,429	43,727	38,712	46,298	47,094	30,590	46,417	493,178
Montana	8,713	6,447	7,840	8,670	7,623	13,787	9,422	6,938	10,025	12,652	6,710	9,516	108,341
Nebraska	12,341	14,873	17,985	14,257	17,959	18,653	14,672	17,800	21,532	16,456	17,100	19,991	203,619
Nevada	6,818	17,306	1,249	8,387	15,125	1,676	10,443	15,233	8,719	10,946	17,448	7,560	120,910
New Hampshire	5,185	3,506	3,993	5,106	3,376	6,533	4,148	2,476	7,156	6,967	2,313	4,906	55,665
New Jersey	32,767	33,963	29,421	36,880	36,846	37,444	42,471	44,474	39,746	39,413	40,315	39,942	453,482
New Mexico	30,528	17,348	894	38,653	6,947	804	32,454	12,351	2,384	30,230	15,588	1,554	189,735
New York	36,758	41,044	40,227	40,181	42,423	44,331	40,709	45,206	42,166	43,166	48,271	41,292	505,774
North Carolina	27,707	52,499	53,719	42,772	50,924	60,242	41,221	50,593	57,504	43,235	53,993	53,071	587,480
North Dakota	4,618	6,288	2,285	10,536	10,331	9,958	7,208	8,092	9,334	8,699	5,818	6,838	91,005
Ohio	66,125	63,551	71,578	69,248	67,970	71,511	66,179	71,829	69,411	68,600	68,600	68,600	823,202
Oklahoma	27,869	24,884	38,064	30,591	40,088	37,042	30,386	29,636	38,110	32,002	27,273	32,525	388,470
Oregon	—	—	—	—	—	—	—	—	—	—	—	—	—
Pennsylvania	66,689	66,662	74,537	73,360	71,364	75,014	72,909	74,155	75,621	77,870	73,024	73,790	874,995
Rhode Island	4,399	4,399	4,399	5,211	5,211	5,211	5,509	5,509	5,509	3,620	3,620	3,620	56,217
South Carolina	18,567	24,560	28,094	4,625	24,219	39,288	18,380	24,693	32,950	24,197	148	33,765	307,507
South Dakota	7,002	6,524	8,049	7,322	7,342	7,750	8,107	8,297	8,305	9,384	7,592	6,890	92,564
Tennessee	36,646	37,059	59,358	46,230	33,010	58,968	45,672	38,018	61,016	48,139	41,237	59,676	565,029
Texas	103,903	103,845	126,257	120,364	99,601	123,793	97,431	105,872	116,023	129,081	91,562	117,884	1,335,616
Utah	7,314	22,437	6,246	17,393	9,244	10,201	4,470	22,024	5,033	10,276	21,874	12,410	148,912
Vermont	3,312	6,310	3,813	2,638	5,451	3,428	2,835	6,291	3,568	3,592	6,930	3,074	51,242
Virginia	40,210	37,149	37,111	45,286	38,871	43,771	53,724	42,257	42,449	45,471	37,422	44,364	508,085
Washington	16,593	29,854	28,438	32,097	17,461	26,155	29,958	28,488	31,148	14,617	35,161	28,438	318,408
West Virginia	10,027	7,864	13,103	10,571	11,770	14,999	15,244	12,161	14,696	15,368	6,136	20,438	152,395
Wisconsin	23,100	50,197	13,153	27,628	31,574	38,806	30,760	31,416	35,146	37,606	34,037	35,633	389,056
Wyoming	9,817	9,460	10,995	7,652	17,485	11,989	12,064	13,999	26,969	24,906	27,675	11,248	184,249
U.S. Total	**1,393,145**	**1,451,541**	**1,514,733**	**1,589,512**	**1,481,638**	**1,647,170**	**1,549,238**	**1,569,168**	**1,513,945**	**1,267,889**	**1,119,502**	**1,037,944**	**18,603,363**

Source: Federal Highway Administration, Monthly Gasoline Reports, 1987.

Average Pump Prices For Gasoline 1978-1987

($ per gal. including taxes and reflecting full-service, self-service etc.)



Note: 1975-1980 is leaded premium, 1981 and thereafter is unleaded premium.
Source: Bureau of Labor Statistics data, graph by *NPN*

Gasoline Prices by Grades and Months

(U.S. averages, retail, in ¢ per gal. including taxes and types of service.)

		Leaded Regular	Unleaded Regular	Unleaded Premium (a)	Average for All Types
1987	January	80.6	86.2	100.7	86.8
	February	84.8	90.5	104.7	91.1
	March	85.6	91.2	105.2	91.8
	April	87.9	93.4	107.3	94.0
	May	88.8	94.1	107.9	94.8
	June	90.6	95.8	109.8	96.6
	July	92.1	97.1	111.5	98.0
	August	94.6	99.5	113.9	100.4
	September	94.0	99.0	113.6	100.0
	October	93.1	97.6	112.8	98.8
	November	92.8	97.6	112.5	98.7
	December	91.2	96.1	111.9	97.5
	Average	**89.7**	**95.0**	**109.3**	**95.7**
1986	January	110.7	119.4	133.6	119.0
	February	103.4	112.0	128.2	111.9
	March	89.4	98.1	116.0	98.3
	April	81.5	88.8	106.1	89.5
	May	85.2	92.3	107.5	92.7
	June	88.5	95.5	110.0	95.8
	July	82.2	89.0	104.5	89.5
	August	77.8	84.3	99.9	84.8
	September	79.7	86.0	101.0	86.4
	October	77.1	83.1	98.7	83.7
	November	76.2	82.1	98.0	82.7
	December	76.4	82.3	98.4	83.0
	Average	**85.7**	**92.7**	**108.5**	**93.1**
1985	January	106.0	114.8	130.4	114.5
	February	104.1	113.1	129.0	112.8
	March	107.1	115.9	131.0	115.5
	April	111.9	120.5	134.0	119.9
	May	114.4	123.1	136.0	122.3
	June	115.3	124.1	137.1	123.3
	July	115.4	124.2	136.7	123.3
	August	114.3	122.9	135.9	122.2
	September	112.9	121.6	134.9	120.9
	October	111.7	120.4	134.2	119.8
	November	112.3	120.7	133.9	120.1
	December	112.3	120.8	134.4	120.3
	Average	**111.5**	**120.2**	**134.0**	**119.6**
Average	1984	112.9	121.2	136.6(a)	119.8
	1983	115.7	124.1	138.3(a)	122.5
	1982	122.2	129.6	141.5(a)	128.1
	1981(b)	131.1	137.8	141.5(a)	128.1
	1980	119.1	124.5	128.1(a)	122.1
	1978	62.6	67.0	69.4(a)	65.2
	1976	59.0	61.4	63.6(a)	NA

(a) In January 1984, this series was switched from leaded premium to unleaded premium to reflect changing market conditions.

(b) Data for 1981 and earlier are for leaded premium. Beginning in September 1981, Bureau of Labor Statistics changed the weights used in the calculation of average motor gasoline prices. In the fourth column above, gasohol is included and unleaded premium is weighted more heavily.

Source: Department of Energy, Monthly Energy Review, December 1988.

Retail Gasoline Prices by Months and Grades

All Types

SELECTED LOCAL AREAS

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average For Year
SIZE A (MORE THAN 1,200,000 POPULATION)													
Chicago-N'Western Ind.	$0.953	$0.976	$0.974	$1.018	$1.016	$1.031	$1.051	$1.078	$1.070	$1.055	$1.048	$1.031	$1.025
L.A.-Long Beach, Anaheim	.838	.944	.968	.985	.989	.974	.945	.953	.946	.937	.929	.908	.943
N.Y., N.Y.-N'Eastern N.J.	.868	.907	.923	.947	.966	.990	1.020	1.052	1.055	1.038	1.029	1.042	.986
Philadelphia, Pa.-N.J.	.843	.876	.887	.904	.915	.932	.954	.977	.974	.962	.963	.957	.929
San Francisco-Oakland	.828	.905	.943	.958	.959	.964	.961	.969	.976	.979	.976	.974	.949
SIZE B (360,000 to 1,200,000 POPULATION)													
Baltimore, Md.	.855	.891	.898	.912	.921	.995	1.017	1.043	1.043	1.028	1.026	1.014	.970
Boston, Mass.	.857	.893	.897	.916	.927	.943	.975	1.013	1.025	1.017	1.017	1.017	.958
Cleveland, Ohio	.904	.912	.911	.936	.945	.959	1.002	1.016	1.000	.979	.991	.981	.961
Miami, Fla.	.915	.961	.967	.997	1.008	1.030	1.046	1.082	1.085	1.073	1.059	1.058	1.023
St. Louis, Mo.-Ill.	.817	.849	.849	.865	.872	.931	.949	.967	.967	.955	.955	.945	.910
Washington,-Md.-Va.	.936	.964	.972	.992	1.004	1.048	1.083	1.105	1.109	1.094	1.097	1.094	1.042
SIZE C (50,000 to 360,000 POPULATION)													
Dallas-Fort Worth, Tex.	.809	.851	.846	.867	.874	.890	.907	.937	.937	.936	.929	.925	.892
Detroit, Mich.	.888	.891	.895	.928	.945	.963	1.004	1.037	1.024	1.002	1.005	.980	.964
Houston, Tex.	.830	.881	.876	.899	.906	.918	.934	.947	.949	.928	.920	.910	.908
Pittsburgh, Pa.	.837	.875	.876	.898	.891	.913	.938	.960	.956	.947	.956	.943	.916

Leaded Regular

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average For Year
SIZE A (MORE THAN 1,200,000 POPULATION)													
Chicago-N'Western Ind.	0.891	0.923	0.923	0.963	0.965	0.980	1.003	1.027	1.015	0.991	0.983	0.958	.968
L.A.-Long Beach, Anaheim	.789	.887	.911	.933	.937	.928	.908	.916	.908	.916	.902	.879	.901
N.Y., N.Y.-N'Eastern N.J.	.783	.821	.837	.858	.877	.909	.941	.971	.977	.965	.952	.940	.903
Philadelphia-N.J.	.802	.831	.846	.864	.877	.901	.921	.942	.939	.931	.923	.916	.891
San Francisco-Oakland	.748	.826	.853	.869	.875	.872	.873	.891	.898	.913	.908	.911	.870
SIZE B (360,000 to 1,200,000 POPULATION)													
Baltimore, Md.	.786	.826	.833	.851	.860	.940	.964	.989	.991	.975	.971	.963	.913
Boston, Mass.	.781	.815	.822	.844	.858	.872	.900	.943	.950	.940	.939	.937	.883
Cleveland, Ohio	.820	.820	.830	.862	.864	.860	.933	.934	.915	.898	.905	.898	.888
Miami, Fla.	.852	.892	.902	.931	.939	.966	.964	.997	.992	.983	.981	.986	.949
St. Louis, Mo.-Ill.	.756	.793	.793	.810	.810	.869	.891	.913	.910	.905	.903	.891	.853
Washington-Md.-Va.	.818	.845	.848	.865	.885	.918	.950	.974	.975	.952	.957	.948	.911
SIZE C (50,000 to 360,000 POPULATION)													
Dallas-Fort Worth, Tex.	.776	.812	.807	.829	.835	.854	.868	.903	.903	.904	.893	.886	.856
Detroit, Mich.	.812	.809	.823	.862	.889	.909	.946	.980	.966	.950	.941	.914	.900
Houston, Tex.	.769	.818	.816	.839	.847	.860	.881	.898	.896	.872	.871	.856	.852
Pittsburgh, Pa.	.811	.845	.848	.869	.863	.882	.909	.933	.927	.916	.924	.912	.887

Unleaded Regular

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average For Year
SIZE A (MORE THAN 1,200,000 POPULATION)													
Chicago-N'Western Ind.	0.929	0.954	0.949	0.996	0.994	1.009	1.028	1.057	1.050	1.037	1.029	1.015	1.004
L.A.-Long Beach, Anaheim	.827	.938	.963	.978	.982	.967	.934	.943	.937	.915	.907	.885	.931
N.Y., N.Y.-N'Eastern N.J.	.823	.861	.875	.900	.917	.939	.988	1.001	1.004	.983	.975	.983	.936
Philadelphia-N.J.	.814	.844	.855	.871	.881	.897	.917	.942	.938	.924	.920	.922	.895
San Francisco-Oakland	.828	.906	.945	.959	.960	.967	.968	.965	.993	.987	.984	.976	.955
SIZE B (360,000 to 1,200,000 POPULATION)													
Baltimore, Md.	.824	.860	.867	.877	.885	.960	.982	1.008	1.005	.991	.989	.976	.935
Boston, Mass.	.830	.866	.869	.884	.895	.911	.946	.981	.996	.990	.989	.988	.929
Cleveland, Ohio	.886	.892	.893	.915	.929	.940	.980	.997	.977	.956	.968	.958	.941
Miami, Fla.	.882	.927	.928	.957	.970	.988	1.004	1.038	1.042	1.036	1.016	1.009	.983
St. Louis, Mo.-Ill.	.807	.839	.838	.852	.860	.920	.937	.954	.955	.937	.937	.929	.899
Washington-Md.-Va.	.899	.927	.932	.954	.965	1.008	1.040	1.064	1.065	1.043	1.045	1.039	.998
SIZE C (50,000 to 360,000 POPULATION)													
Dallas-Fort Worth, Tex.	.797	.841	.837	.859	.867	.880	.897	.924	.925	.922	.915	.913	.881
Detroit, Mich.	.907	.906	.906	.938	.953	.970	1.011	1.040	1.028	1.005	1.011	.988	.972
Houston, Tex.	.806	.860	.852	.875	.883	.893	.905	.911	.916	.898	.884	.876	.880
Pittsburgh, Pa.	.816	.858	.857	.882	.871	.897	.922	.943	.940	.931	.940	.925	.899

Unleaded Premium

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average For Year
SIZE A (MORE THAN 1,200,000 POPULATION)													
Chicago-N'Western Ind.	1.134	1.150	1.145	1.177	1.175	1.186	1.208	1.234	1.222	1.199	1.195	1.180	1.184
L.A.-Long Beach, Anaheim	1.011	1.109	1.134	1.147	1.147	1.132	1.103	1.109	1.100	1.103	1.093	1.080	1.107
N.Y., N.Y.-N'Eastern N.J.	.987	1.028	1.044	1.069	1.083	1.105	1.134	1.167	1.169	1.155	1.146	1.162	1.104
Philadelphia-N.J.	.989	1.026	1.032	1.045	1.057	1.068	1.098	1.120	1.115	1.107	1.110	1.104	1.070
San Francisco-Oakland	.976	1.049	1.074	1.091	1.088	1.084	1.077	1.090	1.097	1.114	1.114	1.113	1.081
SIZE B (360,000 to 1,200,000 POPULATION)													
Baltimore, Md.	.996	1.027	1.032	1.047	1.052	1.119	1.141	1.169	1.170	1.155	1.152	1.140	1.100
Boston, Mass.	.963	1.023	1.024	1.038	1.048	1.066	1.094	1.131	1.143	1.135	1.130	1.138	1.080
Cleveland, Ohio	1.081	1.112	1.090	1.113	1.122	1.132	1.181	1.193	1.189	1.164	1.177	1.167	1.143
Miami, Fla.	.975	1.026	1.031	1.060	1.070	1.093	1.112	1.151	1.153	1.133	1.118	1.118	1.087
St. Louis, Mo.-Ill.	1.003	1.031	1.030	1.038	1.047	1.099	1.118	1.133	1.132	1.134	1.135	1.122	1.085
Washington-Md.-Va.	1.146	1.170	1.180	1.197	1.204	1.255	1.289	1.302	1.302	1.296	1.290	1.289	1.245
SIZE C (50,000 to 360,000 POPULATION)													
Dallas-Fort Worth, Tex.	.927	.970	.961	.980	.980	1.000	1.020	1.052	1.046	1.051	1.043	1.039	1.006
Detroit, Mich.	.987	1.030	1.037	1.062	1.068	1.093	1.146	1.184	1.162	1.131	1.146	1.113	1.097
Houston, Tex.	.996	1.045	1.041	1.062	1.070	1.085	1.095	1.106	1.103	1.081	1.071	1.064	1.068
Pittsburgh, Pa.	1.010	1.036	1.049	1.054	1.062	1.073	1.095	1.116	1.107	1.102	1.119	1.109	1.078

and Population Areas—1987(a)

Population Sizes and Regions

Leaded Regular

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average For Year
U.S. city average	$0.806	$0.848	$0.856	$0.879	$0.888	$0.906	$0.921	$0.946	$0.940	$0.931	$0.928	$0.912	$0.897
Region and area size													
Northeast urban	.803	.839	.849	.867	.879	.903	.931	.956	.955	.945	.941	.933	.900
Size A—More than 1,200,000	.791	.826	.839	.859	.872	.897	.923	.951	.953	.943	.936	.926	.893
Size B—500,000 to 1,200,000	.815	.857	.867	.883	.895	.912	.948	.978	.967	.951	.957	.948	.915
Size C—50,000 to 500,000	.834	.873	.871	.884	.888	.919	.939	.950	.944	.941	.936	.930	.909
North Central urban	.832	.843	.848	.883	.894	.925	.950	.986	.967	.952	.953	.933	.864
Size A—More than 1,200,000	.820	.832	.837	.873	.882	.909	.944	.966	.955	.936	.939	.919	.901
Size B—360,000 to 1,200,000	.832	.847	.855	.893	.912	.942	.951	.991	.980	.953	.955	.917	.919
Size C—50,000 to 360,000	.846	.849	.845	.880	.888	.922	.938	1.004	.979	.969	.976	.956	.921
South urban	.808	.847	.845	.865	.871	.890	.905	.927	.923	.909	.909	.897	.883
Size A—More than 1,200,000	.783	823	.824	.849	.854	.879	.895	.920	.921	.908	.904	.894	.871
Size B—450,000 to 1,200,000	.821	.853	.847	.872	.881	.896	.909	.931	.926	.914	.914	.915	.890
Size C—50,000 to 450,000	.821	.865	.863	.876	.877	.895	.911	.933	.922	.902	.904	.880	.887
West urban	.761	.859	.879	.896	.905	.908	.906	.928	.928	.931	.923	.903	.896
Size A—More than 1,250,000	.781	.866	.887	.907	.914	.911	.900	.919	.914	.917	.906	.886	.892
Size B—330,000 to 1,250,000	.786	.859	.877	.890	.908	.922	.925	.938	.949	.961	.951	.941	.909
Size C—50,000 to 330,000	.774	.829	.844	.860	.868	.883	.920	.961	.970	.962	.966	.932	.898

Unleaded Regular

U.S. city average	$0.862	$0.905	$0.912	$0.934	$0.941	$0.958	$0.971	$0.995	$0.990	$0.976	$0.976	$0.961	$0.948
Region and area size													
Northeast urban	.853	.867	.896	.916	.927	.948	.976	.999	1.001	.988	.967	.979	.946
Size A—More than 1,200,000	.821	.858	.868	.889	.902	.922	.949	.979	.981	.965	.963	.964	.922
Size B—500,000 to 1,200,000	.916	.954	.962	.984	.992	1.012	1.052	1.071	1.074	1.065	1.068	1.040	1.023
Size C—50,000 to 500,000	.910	.934	.941	.958	.967	.994	1.012	.996	.993	.985	.969	.962	.970
North Central urban	.888	.899	.895	.932	.936	.966	.991	1.025	1.007	.987	.966	.976	.958
Size A—More than 1,200,000	.893	.906	.902	.938	.943	.968	.997	1.023	1.012	.992	.969	.978	.963
Size B—360,000 to 1,200,000	.874	.878	.881	.914	.924	.950	.972	1.011	.983	.950	.969	.929	.936
Size C—50,000 to 360,000	.889	.894	.879	.922	.924	.962	.971	1.037	1.016	1.002	1.012	.995	1.040
South urban	.868	.906	.905	.924	.929	.951	.966	.985	.983	.972	.968	.955	.943
Size A—More than 1,200,000	.840	.881	.882	.906	.912	.939	.956	.980	.982	.967	.969	.953	.930
Size B—450,000 to 1,200,000	.878	.912	.910	.931	.936	.957	.968	.986	.986	.994	.983	.966	.950
Size C—50,000 to 450,000	.888	.929	.927	.938	.942	.958	.974	.989	.977	.960	.959	.938	.948
West urban	.838	.923	.946	.961	.967	.966	.954	.974	.974	.959	.956	.940	.946
Size A—More than 1,250,000	.829	.923	.948	.963	.967	.962	.941	.960	.957	.937	.932	.911	.936
Size B—330,000 to 1,250,000	.886	.967	.981	.993	1.010	1.018	1.020	1.035	1.043	1.049	1.036	1.044	1.007
Size C—50,000 to 330,000	.841	.898	.911	.925	.931	.953	.996	1.025	1.040	1.039	1.048	.961	.957

Unleaded Premium

U.S. city average	$1.007	$1.047	$1.052	$1.073	$1.079	$1.098	$1.115	$1.139	$1.136	$1.128	$1.125	$1.119	$1.093
Region and area size													
Northeast urban	.997	1.034	1.042	1.062	1.073	1.094	1.125	1.153	1.156	1.145	1.142	1.149	1.098
Size A—More than 1,200,000	.987	1.027	1.039	1.059	1.073	1.092	1.120	1.152	1.153	1.142	1.137	1.147	1.094
Size B—500,000 to 1,200,000	1.006	1.044	1.034	1.057	1.065	1.084	1.130	1.156	1.162	1.157	1.157	1.160	1.101
Size C—50,000 to 500,000	1.043	1.059	1.071	1.078	1.091	1.117	1.150	1.140	1.150	1.137	1.136	1.134	1.109
North Central urban	1.022	1.042	1.038	1.073	1.073	1.100	1.128	1.156	1.141	1.125	1.134	1.112	1.095
Size A—More than 1,200,000	1.053	1.076	1.070	1.099	1.103	1.124	1.158	1.180	1.171	1.153	1.160	1.140	1.124
Size B—360,000 to 1,200,000	1.071	1.071	1.062	1.102	1.093	1.130	1.151	1.191	1.193	1.172	1.176	1.153	1.130
Size C—50,000 to 360,000	.903	.921	.932	.982	.973	1.013	1.029	1.080	1.042	1.033	1.050	1.016	.998
South urban	1.015	1.044	1.043	1.062	1.070	1.094	1.109	1.132	1.129	1.121	1.116	1.109	1.087
Size A—More than 1,200,000	1.002	1.041	1.044	1.068	1.072	1.104	1.122	1.150	1.153	1.141	1.133	1.128	1.097
Size B—450,000 to 1,200,000	1.016	1.043	1.044	1.068	1.070	1.095	1.111	1.131	1.115	1.106	1.102	1.094	1.083
Size C—50,000 to 450,000	1.039	1.057	1.047	1.054	1.073	1.088	1.098	1.117	1.111	1.110	1.109	1.096	1.083
West urban	.996	1.074	1.095	1.110	1.113	1.109	1.097	1.115	1.114	1.119	1.112	1.102	1.096
Size A—More than 1,250,000	1.000	1.086	1.111	1.125	1.127	1.117	1.095	1.107	1.101	1.105	1.098	1.086	1.097
Size B—330,000 to 1,250,000	.990	1.060	1.064	1.076	1.089	1.106	1.113	1.140	1.158	1.165	1.154	1.148	1.105
Size C—50,000 to 330,000	.990	1.023	1.037	1.067	1.067	1.077	1.101	1.145	1.146	1.158	1.158	1.143	1.093

(a) Bureau of Labor Statistics again reduced the amount of data it made available for 1987. The prices set forth are in $ per gal., federal and state taxes included, and are representative of full-service, self-service and mini-service. The selected local areas and the population groups are Standard Metropolitan Statistical Areas as used by BLS and Census Bureaus.

Source: Bureau of Labor Statistics, Department of Commerce.

Retail Gasoline Prices For Selected Areas[a]

Standard Metropolitan Statistical Areas	1987 (b)				1986				1985			
	Lead Reg.	Unld. Reg.	Unld. Prem.	All Types	Lead Reg.	Unld. Reg.	Unld. Prem.	All Types	Lead Reg.	Unld. Reg.	Unld. Prem.	All Types
U.S. City Average	**$0.897**	**$0.948**	**$1.093**	**$0.979**	**$0.857**	**$0.928**	**$1.085**	**$0.931**	**$1.12**	**$1.20**	**$1.34**	**$1.20**
Size A - (Population 1,250,000 And Up)												
Chicago-N'Western Ind.	.968	1.004	1.184	1.025	.911	.953	1.173	.978	1.09	1.15	1.42	1.26
L.A.-Long Beach, Anaheim	.901	.931	1.107	.943	.829	.957	1.129	.967	1.08	1.19	1.36	1.19
N.Y., N.Y.-N'Eastern N.J.	.903	.936	1.104	.986	.859	.908	1.078	.954	1.11	1.19	1.33	1.22
Philadelphia, PA	.891	.895	1.070	.929	.869	.880	1.057	.913	1.11	1.16	1.32	1.18
San Francisco-Oakland	.870	.955	1.081	.949	.869	.976	1.155	.974	1.14	1.25	1.41	1.25
Size B - (Population 360,000 to 1,250,000)												
Anchorage, Alas.	—	—	—	—	.950	.997	1.143	.993	1.18	1.24	NA	1.23
Baltimore, Md.	.913	.935	1.100	.970	.378	.921	1.101	.954	1.09	1.16	1.33	1.19
Boston, Mass.	.883	.929	1.080	.958	.858	.922	1.078	.946	1.08	1.17	1.33	1.19
Cincinnati, Ohio-Ky.-Ind.	—	—	—	—	.813	.853	1.057	.868	1.09	1.15	1.31	1.15
Cleveland, Ohio	.888	.941	1.143	.961	.821	.902	1.118	.925	1.09	1.18	1.35	1.19
Denver-Boulder, Colo.	—	—	—	—	.788	.873	1.020	.845	1.06	1.16	1.29	1.12
Miami, Fla.	.949	.983	1.087	1.023	.895	.953	1.043	.975	1.12	1.21	1.31	1.23
Milwaukee, Wis.	—	—	—	—	.857	.899	1.048	.898	1.13	1.20	1.33	1.19
N'Eastern Penna.	—	—	—	—	.869	.910	1.078	.917	1.15	1.23	1.35	1.21
Portland, Ore.-Wash.	—	—	—	—	.839	.921	1.054	.902	1.12	1.20	1.39	1.19
St. Louis, Mo.-Ill.	.853	.899	1.085	.910	.800	.865	1.083	.876	1.06	1.14	1.31	1.13
San Diego, Calif.	—	—	—	—	.877	1.000	1.198	.986	1.12	1.25	1.41	1.24
Seattle-Everett, Wash.	—	—	—	—	.890	.970	1.116	.958	1.15	1.22	1.35	1.21
Washington, D.C.-Md.-Va.	.911	.998	1.245	1.042	.891	.983	1.228	1.022	1.15	1.26	1.41	1.27
Size C - (Population 50,000 to 360,000)												
Atlanta, Ga.	—	—	—	—	.768	.888	1.021	.877	1.09	1.20	1.34	1.19
Buffalo, N.Y.	—	—	—	—	.861	.891	1.010	.899	1.15	1.20	1.31	1.20
Dallas-Fort Worth, Tex.	.856	.881	1.006	.892	.788	.831	.962	.836	1.10	1.14	1.32	1.16
Detroit, Mich.	.900	.972	1.097	.964	.833	.944	1.048	.923	1.17	1.26	1.37	1.25
Honolulu, Hawaii	—	—	—	—	1.080	1.221	1.326	1.206	1.27	1.40	NA	1.39
Houston, Tex.	.852	.880	1.068	.908	.753	.796	1.000	.821	1.02	1.11	1.28	1.11
Kansas City, Mo.-Kan.	—	—	—	—	.758	.817	.997	.801	1.04	1.12	1.25	1.11
Minneapolis-St. Paul, Minn.-Wis.	—	—	—	—	.903	.970	1.079	.952	1.17	1.25	1.34	1.23
Pittsburgh, Pa.	.887	.899	1.078	.916	.855	.883	1.057	.894	1.15	1.22	1.37	1.23

(a)In $/gal., including federal and state taxes and reflecting full-service, self-service and mini-service; The areas are the standard metropolitan statistical areas as defined by BLS and the Census Bureau;

(b) In 1987, BLS reduced its roster of areas to 15, as indicated in the 1987 reports; in its 1987 reports, BLS also reclassified Detroit, Cleveland and San Francisco-Oakland, moving them into different population categories.

Source: Bureau of Labor Statistics, Department of Commerce.

Wholesale Price Trends Through 1986

Year	Refinery products in eight refinery markets representing total U.S.						Crude	
	Motor gasoline ¢ gal.	Kerosine ¢ gal.	Light fuel ¢ gal.	Heavy fuel ¢ gal.	Average 4 products		8 areas $/bbl.	Products vs. crude $/bbl.
					¢ gal	$/bbl.		
1987(a)	53.22	56.75	52.25	45.36	50.89	21.37	15.53	5.84
1986	47.74	49.92	44.91	36.23	43.97	18.47	12.66	5.81
1985	81.11	81.69	76.66	56.41	73.06	30.69	24.090	6.60
1984	81.14	84.75	79.62	59.14	74.49	31.29	25.880	5.41
1983	86.97	85.12	80.05	57.30	75.33	31.64	26.190	5.51
1982	94.56	97.18	91.95	57.80	82.44	34.62	28.520	6.10
1981	101.63	101.03	97.20	61.17	88.75	37.28	31.770	5.51
1980	87.40	80.26	78.21	44.43	72.77	30.56	21.190	9.38
1979	56.84	56.50	54.47	33.63	49.50	20.79	12.640	8.15
1978	39.22	37.23	35.66	23.00	33.72	14.16	9.000	5.16
1977	36.99	35.81	34.41	25.87	32.21	13.95	8.570	5.38
1976	33.82	31.67	30.38	21.66	29.55	12.41	8.141	4.26
1975	30.27	27.41	26.09	22.03	27.03	11.35	7.560	3.79
1970	12.33	12.43	10.45	6.14	10.20	4.28	3.177	1.103
1965	11.52	11.28	9.04	4.81	9.12	3.83	2.864	0.966

(a) Preliminary

Source: Independent Petroleum Assn. of America. Product figures reflect trends in prices but not the actual sales realizations for producers or refiners.

Supplier Gasoline Prices, by Type of Seller

(¢ per gal., excluding taxes)

Year Month	Major Refiners			Other Refiners			Average		
	Sales to End-Users			Sales to End-Users			Sales to End-Users		
	Through Company Outlets	Other End-Users	Sales for Resale	Through Company Outlets	Other End-Users	Sales for Resale	Through Company Outlets	Other End-Users	Sales for Resale
1987									
January	61.2	54.4	54.2	57.3	51.2	50.1	60.1	53.0	53.3
February	63.8	57.3	56.3	60.1	51.9	50.7	62.8	54.3	55.0
March	64.8	56.4	57.5	60.8	52.3	52.2	63.7	54.3	56.2
April	66.6	58.9	59.1	62.5	55.4	53.7	65.4	57.2	57.7
May	68.0	59.7	60.7	63.7	56.7	55.5	66.7	58.3	59.4
June	69.3	61.5	61.8	65.4	56.8	57.3	68.2	58.9	60.7
July	70.9	63.3	63.4	67.2	59.3	59.1	69.8	61.3	62.5
August	73.1	64.5	64.7	69.3	60.2	59.8	72.0	62.1	63.6
September	72.0	61.1	61.8	69.1	58.9	56.3	71.1	60.0	60.6
October	71.3	61.7	61.7	67.9	59.8	56.6	70.2	60.8	60.5
November	71.0	62.1	61.2	67.5	58.1	55.1	69.9	59.9	59.9
December	69.2	58.8	57.3	65.2	54.7	49.6	68.0	56.6	55.6
1987 Average	**68.4**	**59.9**	**60.1**	**64.7**	**56.2**	**54.8**	**67.3**	**58.0**	**58.9**
1986									
January	91.7	81.3	78.5	88.0	79.8	71.0	90.5	80.8	76.7
February	83.6	71.2	67.3	78.7	68.5	58.2	82.1	70.3	65.1
March	68.0	57.2	54.1	64.2	53.1	46.9	66.9	55.7	52.4
April	60.7	54.6	52.9	58.1	52.1	48.1	59.9	53.8	51.8
May	65.1	60.3	59.1	62.6	57.7	54.3	64.4	59.5	57.9
June	66.7	58.8	55.9	64.1	55.0	49.9	65.9	57.5	54.4
July	60.1	49.3	47.2	57.3	45.9	40.8	59.3	48.0	45.7
August	57.3	49.7	49.0	54.0	45.5	44.0	56.3	47.8	47.9
September	57.9	50.0	49.8	55.1	47.2	44.6	57.1	48.8	48.6
October	54.8	47.4	47.1	52.1	44.7	42.8	54.0	46.2	46.1
November	54.7	48.5	48.1	51.7	45.0	43.8	53.9	46.8	47.1
December	56.0	49.2	48.5	52.4	45.5	43.9	54.9	47.6	47.4
1986 Average	**64.1**	**57.6**	**54.4**	**61.2**	**52.7**	**48.7**	**63.2**	**55.8**	**53.1**
1985 Average	**93.0**	**85.7**	**84.7**	**89.8**	**83.5**	**79.9**	**92.1**	**85.2**	**83.5**
1984 Average	**92.0**	**85.7**	**84.2**	**90.0**	**84.9**	**80.2**	**91.4**	**85.6**	**83.2**
1982 Average	**108.2**	**101.1**	**98.3**	**105.6**	**100.2**	**94.3**	**107.2**	**100.9**	**97.3**
1980 Average	**105.6**	**98.7**	**95.1**	**103.0**	**97.8**	**91.3**	**104.6**	**98.5**	**94.1**
1978 Average	**49.4**	**46.2**	**43.8**	**48.2**	**45.8**	**42.1**	**48.9**	**46.1**	**43.4**

Supplier Gasoline Prices, by Grade and Type

(¢ per gal., excluding taxes)

Year Month	Leaded Regular			Unleaded Regular			Premium		
	Sales to End-Users			Sales to End-Users			Sales to End-Users		
	Through Company Outlets	Other End-Users	Sales for Resale	Through Company Outlets	Other End-Users	Sales for Resale	Through Company Outlets	Other End-Users	Sales for Resale
1987									
January	54.6	52.4	50.9	58.7	51.8	51.6	71.1	60.4	60.8
February	57.7	53.7	52.6	61.1	53.3	53.2	74.1	62.5	63.0
March	58.6	54.3	53.9	62.0	53.0	54.4	75.1	63.5	64.4
April	60.3	57.4	55.5	63.7	55.8	55.8	76.8	65.0	65.9
May	61.5	58.7	57.2	65.0	56.8	57.4	77.9	66.3	67.5
June	63.4	60.0	58.5	66.5	57.2	58.7	78.6	66.9	68.9
July	65.0	60.8	60.5	68.2	59.9	60.5	79.5	69.2	70.6
August	67.1	61.4	61.3	70.3	60.8	61.6	82.3	71.0	71.8
September	66.2	60.6	58.3	69.3	58.3	58.4	81.7	68.0	69.1
October	65.2	61.0	58.2	68.1	59.1	58.3	80.9	68.7	68.6
November	64.9	58.8	57.4	67.7	58.5	57.5	80.8	67.5	68.3
December	62.9	57.3	52.1	65.4	54.7	53.2	78.8	66.9	64.7
1987 Average	**62.1**	**57.8**	**56.4**	**65.5**	**56.5**	**56.9**	**78.2**	**66.5**	**67.1**
1986									
January	83.6	78.4	72.4	90.6	80.6	76.5	103.9	89.1	86.4
February	75.1	66.9	60.3	81.9	70.0	64.8	96.9	81.0	76.3
March	60.1	52.3	48.2	66.3	55.3	51.9	82.5	66.4	62.7
April	54.0	52.3	49.2	59.3	52.8	51.1	73.2	61.1	59.7
May	58.9	58.1	55.2	64.1	58.7	57.4	76.0	66.0	65.5
June	60.5	56.2	51.3	65.4	56.5	53.8	77.3	64.4	62.7
July	53.7	46.4	42.5	58.3	47.0	44.8	71.5	55.2	54.1
August	50.6	47.1	45.1	55.3	47.0	46.9	68.3	53.8	55.5
September	51.5	48.4	45.8	55.8	47.9	47.4	68.8	54.0	56.5
October	48.4	45.3	43.5	52.6	45.3	44.7	65.8	52.8	53.8
November	48.3	45.8	44.6	52.3	45.8	45.6	65.6	53.8	54.7
December	49.1	46.4	44.7	53.3	46.6	45.8	66.6	54.9	55.1
1986 Average	**57.8**	**54.4**	**50.1**	**62.4**	**54.9**	**52.2**	**74.8**	**63.0**	**61.0**
1985 Average	**84.6**	**82.0**	**79.3**	**92.5**	**86.1**	**84.3**	**103.0**	**92.8**	**92.2**
1984 Average	**85.1**	**82.8**	**79.5**	**92.2**	**86.5**	**84.2**	**102.1**	**93.7**	**91.6**
1983 Average	**91.2**	**88.1**	**85.0**	**98.0**	**91.5**	**89.5**	**108.0**	**96.1**	**96.4**

Source: Energy Information Administration, Petroleum Marketing Monthly, December 1987, published March 1988.

Supplier Product Prices for Resale

(¢ per gal., excluding taxes)

							No. 2 Distillate				
Year Month	Motor Gasoline	Aviation Gasoline	Kerosine-Type Jet Fuel	Propane (Consumer Grade)	Kerosine	No. 1 Distillate	No. 2 Fuel Oil	No. 2 Diesel Fuel	Average	No. 4 Fuel	Residual Fuel Oil
1987											
January	53.3	82.9	49.0	25.0	59.1	56.8	50.6	49.5	50.1	46.3	37.7
February	55.0	84.3	49.5	24.5	56.7	54.7	49.3	49.5	49.3	45.2	37.2
March	56.2	83.6	49.2	23.7	54.0	53.8	49.0	48.7	48.8	44.1	36.3
April	57.7	83.7	50.0	24.5	55.2	54.8	49.4	49.6	49.5	44.7	37.2
May	59.4	85.4	51.1	24.0	54.7	57.2	51.5	52.0	51.7	45.5	39.8
June	60.7	86.9	52.6	23.5	55.2	58.0	52.6	53.0	52.8	45.1	42.2
July	62.5	86.4	55.0	24.4	56.7	60.2	54.8	55.0	54.9	47.5	43.3
August	63.6	86.8	56.6	25.6	58.9	62.3	55.1	57.0	56.1	51.2	42.8
September	60.6	86.7	55.8	26.1	58.5	61.8	53.2	55.9	54.6	48.4	39.0
October	60.5	86.8	57.9	26.8	62.7	66.0	56.7	58.1	57.4	49.2	38.8
November	59.9	87.1	58.4	27.1	63.5	66.5	57.0	57.9	57.4	49.6	37.4
December	55.6	86.1	55.7	26.1	60.7	60.6	54.2	53.9	54.1	46.6	33.8
1987 Average	**58.9**	**85.7**	**53.6**	**25.2**	**59.2**	**59.9**	**52.7**	**53.4**	**53.0**	**46.8**	**38.6**
1986											
January	76.7	111.0	77.9	44.0	83.8	82.8	73.6	73.3	73.5	65.1	51.8
February	65.1	108.9	67.7	35.4	67.1	63.8	56.4	56.1	56.3	51.2	38.7
March	52.4	105.1	58.6	29.2	60.8	57.6	51.9	47.4	50.0	44.4	31.8
April	51.8	97.8	50.0	27.3	52.2	56.6	45.9	46.3	46.1	40.2	28.0
May	57.9	95.6	47.5	28.5	50.1	53.9	45.2	44.2	44.7	34.8	26.5
June	54.4	91.7	44.5	28.3	49.3	46.8	40.0	39.6	39.7	35.1	26.2
July	45.7	86.3	40.1	25.3	41.1	40.9	34.8	34.0	34.4	28.0	21.9
August	47.9	83.7	39.8	24.6	47.8	48.1	40.0	38.8	39.3	33.4	23.4
September	48.6	81.6	42.5	24.8	49.1	49.1	41.6	41.8	41.7	33.4	28.1
October	46.1	82.9	43.4	25.1	47.9	48.2	41.0	40.9	41.0	32.3	27.6
November	47.1	81.7	43.7	24.3	51.3	50.6	42.4	41.9	42.1	35.9	27.4
December	47.4	81.4	45.2	23.6	53.4	51.4	44.2	43.4	43.9	39.6	30.4
1986 Average	**53.1**	**91.2**	**49.5**	**29.0**	**60.6**	**57.9**	**48.6**	**45.2**	**47.0**	**40.9**	**30.5**
1985 Average	**83.5**	**113.0**	**79.4**	**39.8**	**87.4**	**86.3**	**77.6**	**77.2**	**77.4**	**67.2**	**57.7**
1984 Average	**83.2**	**116.5**	**83.0**	**45.0**	**91.6**	**89.2**	**82.1**	**80.3**	**81.3**	**70.7**	**65.4**
1982 Average	**97.3**	**122.8**	**95.3**	**42.7**	**101.8**	**103.8**	**91.4**	**91.4**	**91.4**	**73.7**	**61.2**
1980 Average	**94.1**	**112.8**	**86.6**	**41.5**	**86.4**	**88.0**	**80.3**	**80.1**	**80.2**	**67.0**	**52.8**
1978 Average	**43.4**	**53.7**	**38.6**	**23.7**	**40.4**	**40.6**	**36.9**	**36.5**	**36.7**	**30.5**	**26.3**

Supplier Product Prices for End-Users

(¢ per gal., excluding taxes)

							No. 2 Distillate				
Year Month	Motor Gasoline	Aviation Gasoline	Kerosine-Type Jet Fuel	Propane (Consumer Grade)	Kerosine	No. 1 Distillate	No. 2 Fuel Oil	No. 2 Diesel Fuel	Average	No. 4 Fuel	Residual Fuel Oil
1987											
January	59.3	87.9	45.9	72.8	82.8	57.8	58.2	50.5	52.1	51.8	41.5
February	61.7	89.7	49.2	74.8	80.4	56.7	58.8	51.6	53.1	51.5	41.1
March	62.4	90.3	50.0	73.2	82.0	55.9	55.1	51.0	51.8	48.0	39.4
April	64.5	89.8	51.0	63.3	78.2	56.1	54.9	51.4	51.9	49.4	41.9
May	65.8	90.0	52.4	71.5	66.8	55.0	54.7	53.1	53.3	50.8	43.3
June	67.0	90.6	53.3	68.0	59.8	56.3	54.5	54.0	54.1	51.1	44.7
July	68.8	91.1	55.6	64.8	60.4	57.5	56.5	56.1	56.1	52.8	46.2
August	70.9	92.0	58.2	67.8	60.1	64.1	57.8	57.9	57.9	52.9	45.0
September	69.7	91.6	58.3	67.3	76.6	63.6	56.3	56.9	56.8	49.4	41.6
October	69.2	91.2	59.5	66.1	78.8	65.6	60.7	59.3	59.5	52.8	41.9
November	66.8	90.7	59.9	71.7	82.7	67.6	63.2	60.2	60.7	54.1	42.1
December	56.7	90.1	58.2	72.4	87.9	62.9	62.9	57.0	58.2	52.4	37.7
1987 Average	**66.2**	**90.5**	**54.3**	**70.0**	**76.9**	**60.3**	**58.1**	**54.9**	**55.4**	**51.3**	**42.1**
1986											
January	89.3	116.2	80.4	83.3	104.7	85.6	86.9	78.1	80.0	76.1	57.1
February	80.5	117.2	77.5	80.9	93.0	67.0	69.8	61.5	63.1	63.7	45.8
March	65.4	111.5	68.9	80.1	84.9	61.0	62.9	51.2	53.2	57.1	39.0
April	59.1	104.3	57.3	75.9	79.5	61.3	54.9	48.5	49.3	48.9	33.0
May	63.8	102.2	51.9	73.1	67.6	61.0	50.0	46.4	46.9	42.2	30.1
June	64.9	101.0	48.2	73.5	51.6	50.7	44.3	42.0	42.3	41.7	29.8
July	58.0	98.2	43.4	70.3	48.2	43.2	38.4	36.5	36.7	34.3	25.9
August	55.5	94.9	41.0	68.4	60.5	50.4	43.8	40.5	40.9	36.1	26.5
September	56.2	93.2	41.5	70.4	73.7	52.2	46.1	43.3	43.6	38.4	29.8
October	53.2	91.2	41.6	69.8	69.5	50.4	44.8	41.9	42.3	36.5	30.1
November	53.2	87.2	42.4	69.6	74.5	51.6	48.3	43.2	43.9	40.9	31.2
December	54.2	88.8	43.0	72.0	76.8	51.8	51.5	45.0	46.3	44.6	34.8
1986 Average	**62.4**	**101.1**	**52.9**	**74.5**	**79.0**	**62.0**	**56.0**	**47.8**	**49.1**	**48.9**	**34.3**
1985 Average	**91.2**	**120.1**	**79.6**	**71.7**	**103.0**	**88.0**	**84.9**	**78.9**	**79.9**	**77.3**	**61.0**
1984 Average	**90.7**	**123.4**	**84.2**	**73.7**	**103.6**	**92.7**	**91.6**	**82.3**	**83.7**	**79.6**	**68.7**
1982 Average	**106.0**	**131.2**	**96.3**	**59.2**	**108.9**	**102.3**	**90.5**	**94.2**	**92.5**	**75.0**	**67.6**
1980 Average	**103.5**	**108.4**	**86.8**	**48.2**	**90.2**	**83.4**	**78.8**	**81.8**	**80.4**	**69.2**	**60.7**
1978 Average	**48.4**	**51.6**	**38.7**	**33.5**	**42.1**	**40.9**	**40.0**	**37.7**	**39.6**	**31.1**	**29.8**

Source: Energy Information Administration, Petroleum Marketing Monthly, December 1987, published March 1988.

Supplier Prices of No. 2 Distillate Fuel Oil

(¢ per gal., excluding taxes)

	Sales to End-Users						
	To Residential Consumers	To Commercial/ Institutional Consumers	To Industrial Consumers	Sales Through Company Outlets	To Other End-Users	Average	Sales for Resale
1987							
January	78.2	53.8	55.8	59.9	57.4	64.0	50.7
February	79.6	54.2	55.9	61.0	57.3	64.6	50.2
March	78.9	52.8	55.6	60.6	57.2	62.0	49.6
April	78.3	53.1	55.9	60.8	59.3	60.6	50.2
May	77.9	54.5	57.7	63.6	60.3	60.7	52.5
June	77.6	55.5	58.6	63.9	62.3	60.9	53.0
July	77.8	57.3	60.2	65.6	63.6	62.3	55.3
August	78.2	58.7	61.6	66.9	64.5	63.8	55.6
September	78.8	57.6	60.5	67.2	65.1	63.8	54.8
October	81.2	60.7	63.0	67.7	67.8	67.2	57.4
November	83.6	61.6	63.3	68.5	66.5	69.2	57.7
December	83.9	59.2	60.7	67.6	63.1	69.0	54.4
1987 Average	**80.1**	**56.7**	**59.3**	**64.6**	**62.2**	**64.2**	**53.5**
1986							
January	106.4	81.3	80.0	88.9	81.8	91.7	74.2
February	95.8	64.2	64.4	75.1	67.5	77.4	57.4
March	88.7	55.7	56.8	64.5	58.7	66.4	51.2
April	81.2	51.7	54.7	61.5	59.6	61.1	46.8
May	77.4	49.0	53.0	60.0	58.0	57.4	45.5
June	72.8	44.1	47.4	56.5	54.0	52.1	40.8
July	67.0	38.3	43.2	50.2	45.7	45.2	35.4
August	66.3	42.8	47.9	52.7	49.2	49.1	40.1
September	68.1	44.6	48.8	53.8	50.8	51.1	42.3
October	67.4	43.5	47.7	52.7	50.7	51.0	41.6
November	68.2	45.3	48.8	54.1	51.4	54.4	42.7
December	70.6	48.0	50.6	55.2	52.5	58.0	44.7
1986 Average	**83.6**	**51.4**	**53.7**	**59.8**	**56.9**	**61.4**	**48.0**
1985 Average	**105.3**	**82.1**	**83.4**	**88.6**	**85.3**	**89.0**	**78.1**
1984 Average	**109.1**	**85.7**	**87.0**	**92.0**	**89.2**	**92.6**	**81.9**
1983 Average	**107.8**	**86.3**	**88.3**	**94.3**	**89.7**	**93.3**	**81.8**

Supplier Prices of Residual Fuel Oil

(¢ per gal., excluding taxes)

	Residual Fuel Oil Sulfur Content Less Than or Equal to 1%		Residual Fuel Oil Sulfur Content Greater Than 1%		Average	
	Sales to End-Users	Sales for Resale	Sales to End-Users	Sales for Resale	Sales to End-Users	Sales for Resale
1987						
January	44.5	39.9	37.9	35.7	41.5	37.7
February	43.5	40.2	38.3	34.4	41.1	37.2
March	41.8	39.5	37.2	33.5	39.4	36.3
April	43.7	40.1	39.9	35.5	41.9	37.2
May	44.6	41.8	41.7	38.6	43.3	39.8
June	45.3	43.7	43.8	40.9	44.7	42.2
July	47.2	44.8	44.4	42.1	46.2	43.3
August	45.4	44.4	44.5	41.4	45.0	42.8
September	44.0	41.4	39.6	36.7	41.6	39.0
October	44.5	41.3	39.5	36.2	41.9	38.8
November	45.0	41.3	38.7	34.6	42.1	37.4
December	41.4	39.2	32.8	28.2	37.7	33.8
1987 Average	**44.3**	**41.3**	**39.5**	**36.2**	**42.1**	**38.6**
1986						
January	62.0	56.0	52.8	49.7	57.1	51.8
February	49.0	43.0	42.7	36.5	45.8	38.7
March	42.7	37.0	35.7	28.7	39.0	31.8
April	36.8	31.0	30.1	26.0	33.0	28.0
May	35.0	30.1	26.8	23.6	30.1	26.5
June	32.3	29.9	26.8	23.1	29.8	26.2
July	27.4	23.7	24.4	20.4	25.9	21.9
August	29.3	26.5	23.2	21.7	26.5	23.4
September	31.5	29.7	28.2	26.6	29.8	28.1
October	31.9	28.7	28.8	26.4	30.1	27.6
November	33.7	29.3	29.0	25.2	31.2	27.4
December	37.7	34.0	31.6	27.7	34.8	30.4
1986 Average	**37.2**	**32.8**	**31.7**	**28.9**	**34.3**	**30.5**
1985 Average	**64.4**	**61.0**	**58.2**	**56.0**	**61.0**	**57.7**
1984 Average	**72.0**	**68.5**	**65.9**	**63.9**	**68.7**	**65.4**
1982 Average	**74.7**	**69.5**	**61.1**	**57.2**	**67.6**	**61.2**
1980 Average	**67.5**	**60.8**	**52.3**	**47.9**	**60.7**	**52.8**
1978 Average	**31.4**	**29.3**	**27.5**	**24.5**	**29.8**	**26.3**

Source: Energy Information Administration, Petroleum Marketing Monthly, December 1987, published March 1988.

Residential No. 2 Prices for Selected States

(¢ gal., excluding taxes)

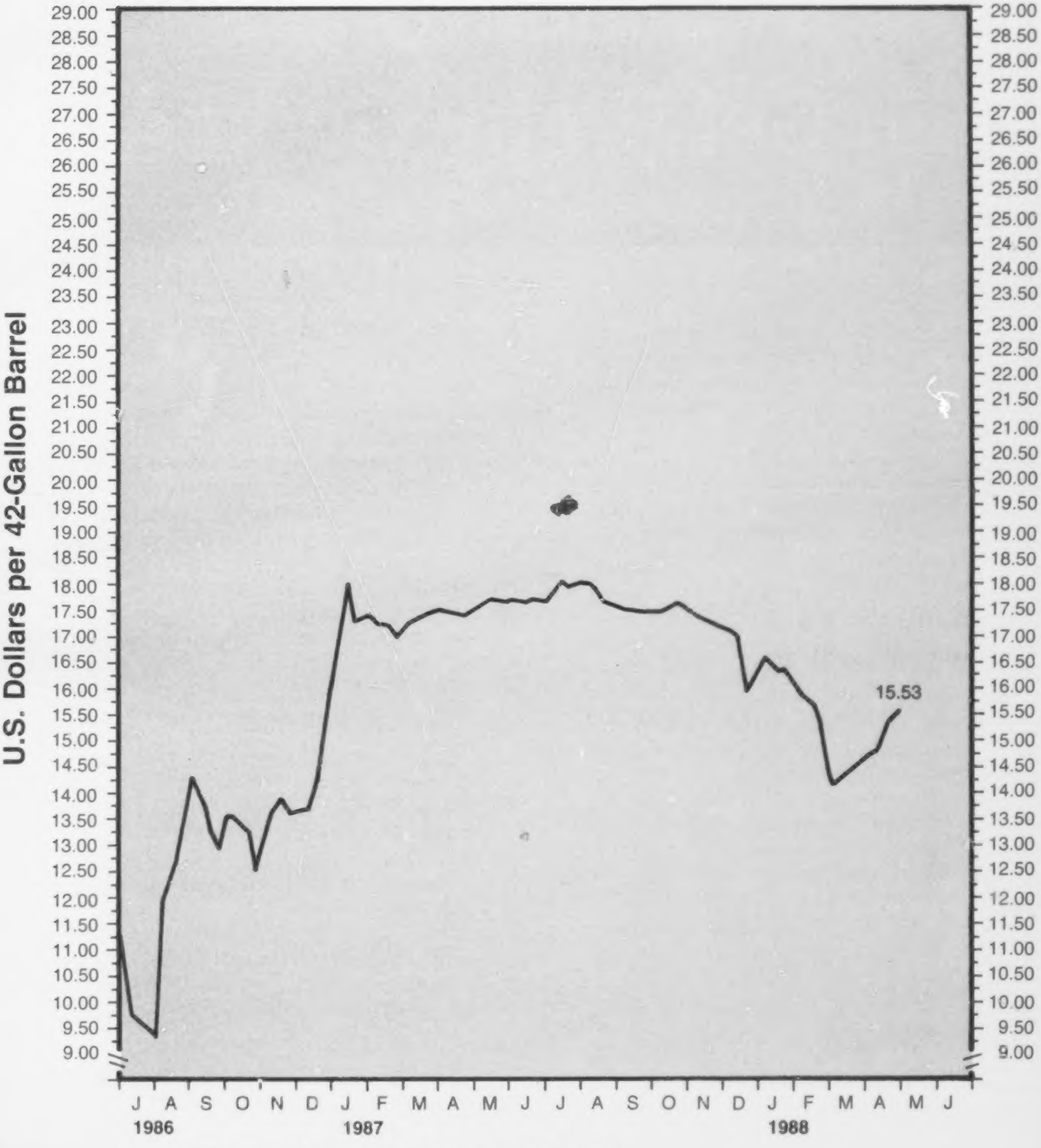
	Conn.	Maine	Mass.	N.H.	R.I.	Vt.	Del.	D.C.	Md.	N.J.	N.Y.	Pa.	Va.
1987													
January	80.0	72.8	80.4	76.1	79.9	78.2	78.2	87.1	82.6	83.1	83.2	74.8	77.0
February	83.4	73.3	80.7	75.3	81.5	79.6	79.5	92.6	85.4	84.3	84.8	75.6	79.5
March	82.4	74.3	80.2	74.0	81.6	79.2	79.5	91.9	85.8	82.5	84.2	74.1	80.5
April	82.5	75.0	79.3	73.5	81.4	78.5	78.1	90.6	84.8	82.1	84.1	73.4	81.1
May	83.0	75.0	80.1	74.1	81.0	79.8	78.6	91.0	84.3	81.4	84.6	72.1	79.4
June	78.2	74.1	76.3	74.3	79.0	79.9	73.6	92.2	84.5	82.0	83.5	72.7	76.4
July	82.7	74.5	74.7	74.3	80.4	80.8	76.2	90.2	85.4	82.3	82.7	73.0	76.6
August	83.0	74.8	73.7	75.9	79.5	80.3	74.8	92.4	87.1	81.7	83.4	73.1	75.8
September	82.5	74.7	78.7	76.0	80.9	81.0	76.2	91.4	87.3	82.3	81.9	75.0	78.5
October	84.6	73.2	80.8	78.0	83.1	83.6	79.5	92.2	88.2	83.9	85.5	77.8	78.5
November	87.5	75.1	83.2	79.3	86.0	84.4	82.5	93.7	90.2	86.2	87.8	83.1	80.8
December	88.0	78.9	83.7	81.8	87.7	84.9	82.6	95.6	NA	87.1	88.3	82.1	80.6
1987 Average	**83.3**	**74.7**	**80.5**	**76.4**	**82.6**	**81.2**	**79.4**	**91.8**	**86.5**	**84.0**	**85.0**	**76.8**	**79.0**
1986													
January	111.5	101.1	105.9	103.7	101.8	109.0	102.3	116.5	112.2	107.7	111.5	104.7	106.9
February	99.5	90.9	90.6	88.6	93.4	100.2	93.9	105.5	99.9	98.3	102.7	95.3	98.2
March	93.5	86.5	85.8	84.3	84.6	95.6	87.0	97.6	93.9	91.5	96.3	87.2	90.8
April	86.2	77.9	76.8	75.2	79.7	89.0	77.1	93.2	88.5	84.8	87.6	78.1	84.5
May	80.7	74.5	74.2	70.7	76.6	84.7	74.3	87.9	84.9	80.1	85.0	72.6	75.1
June	77.6	68.5	68.7	65.4	69.0	78.9	73.7	81.7	79.7	75.6	81.4	66.0	74.3
July	68.5	59.4	65.6	63.3	69.2	70.8	65.5	74.7	71.4	75.8	72.3	63.6	69.5
August	66.9	58.5	65.0	63.3	69.1	68.8	66.6	70.7	70.7	72.4	71.3	62.6	71.5
September	68.4	58.2	67.8	63.0	69.6	69.4	67.0	72.1	70.2	73.4	73.7	63.6	70.9
October	68.9	58.7	68.2	64.3	68.7	69.5	66.6	74.2	72.4	74.7	73.9	64.1	69.5
November	70.2	59.3	69.3	65.3	71.6	70.5	67.9	77.0	73.5	74.6	76.0	66.1	68.9
December	72.5	66.3	72.6	69.5	74.6	72.4	71.2	80.8	77.1	76.7	78.8	68.2	70.6
1986 Average	**89.0**	**74.4**	**82.1**	**75.9**	**82.8**	**86.6**	**85.0**	**93.1**	**91.4**	**90.2**	**91.1**	**81.4**	**86.6**
1985 Average	108.0	99.7	107.0	102.4	106.7	107.7	104.6	114.3	108.8	105.9	111.3	102.3	106.3
1984 Average	112.1	103.9	111.6	108.4	111.4	111.9	109.6	118.7	113.5	111.0	115.5	107.9	110.5
1983 Average	109.1	102.8	109.1	104.1	110.5	112.9	106.0	117.0	110.3	107.9	112.1	105.8	108.7
1982 Average	118.3	115.5	117.6	117.4	120.1	120.1	111.3	124.5	117.1	117.4	120.5	113.7	117.7
1981 Average	121.7	120.4	121.3	123.7	123.8	125.4	117.3	127.4	121.4	121.5	123.2	118.1	120.5
1980 Average	98.3	96.3	97.8	100.4	101.1	101.5	95.4	102.6	97.9	97.9	98.2	96.4	98.5

	W.Va.	Ill.	Ind.	Mich.	Minn.	Ohio	Wis.	Idaho	Ark.	Ore.	Wash.	U.S. Avg.
1987												
January	72.9	76.6	72.8	75.9	70.7	69.1	72.0	62.7	86.5	67.6	71.3	78.2
February	76.1	73.7	72.1	75.1	69.9	72.0	73.0	65.1	88.9	71.1	74.1	79.6
March	71.9	77.9	71.0	76.1	70.1	70.5	73.5	65.6	82.8	71.1	74.7	78.9
April	69.0	77.9	72.8	74.4	69.9	68.8	73.6	65.7	83.4	70.4	74.3	78.3
May	69.3	79.5	74.8	75.0	70.6	63.7	70.8	64.9	81.2	69.1	71.9	77.9
June	66.7	82.8	76.2	75.7	76.4	75.3	75.3	NA	82.7	70.9	72.9	77.6
July	69.3	83.4	76.7	76.1	77.2	74.5	73.5	NA	85.6	NA	75.0	77.8
August	75.6	84.7	77.3	77.0	77.5	73.3	74.5	75.3	87.3	77.3	78.4	78.2
September	74.2	83.0	78.1	77.0	76.4	75.9	74.4	76.9	89.6	77.4	80.2	78.8
October	74.9	89.2	80.7	78.0	79.9	77.4	77.6	75.9	92.8	76.6	82.0	81.2
November	78.3	89.5	82.2	80.6	80.7	79.2	79.3	77.1	92.4	75.2	83.7	83.6
December	79.7	86.1	80.6	80.6	78.4	78.4	77.0	76.7	90.5	75.9	84.1	83.9
1987 Average	**74.0**	**79.6**	**75.4**	**77.0**	**75.0**	**73.4**	**74.5**	**68.5**	**87.8**	**72.7**	**77.8**	**80.1**
1986												
January	99.8	97.6	99.9	102.6	100.5	100.7	96.5	97.1	106.5	100.1	104.6	106.4
February	87.8	82.9	85.0	91.9	86.2	91.9	83.9	91.2	103.7	83.5	90.4	95.8
March	79.6	74.7	75.6	80.6	80.2	80.8	75.9	76.2	113.8	65.9	75.3	88.7
April	70.6	69.9	74.0	74.5	76.4	78.1	73.8	69.9	95.6	62.5	74.9	81.2
May	67.4	72.9	67.2	72.4	79.5	75.2	71.8	74.8	94.3	64.1	71.2	77.4
June	63.4	67.4	66.6	65.5	74.6	69.0	69.0	66.9	89.0	60.0	65.3	72.8
July	53.9	NA	60.1	67.2	69.5	62.3	63.6	62.2	NA	55.7	60.2	67.0
August	59.7	64.7	65.6	69.7	67.6	62.5	63.7	58.6	84.2	55.6	60.6	66.3
September	61.3	65.5	66.7	70.7	70.0	64.2	67.9	59.4	89.2	61.9	66.9	68.1
October	63.0	60.0	65.2	69.8	67.7	61.5	63.3	60.8	79.2	62.3	68.2	67.4
November	67.3	NA	65.1	70.3	68.0	61.0	66.0	62.1	80.1	62.6	68.8	68.2
December	71.7	NA	68.5	72.5	68.3	64.8	69.0	61.6	85.4	63.9	66.7	70.6
1986 Average	**74.6**	**NA**	**74.8**	**81.0**	**79.2**	**77.7**	**75.6**	**73.8**	**94.9**	**70.4**	**77.5**	**83.6**
1985 Average	98.0	97.5	99.1	102.1	101.9	99.7	98.3	97.2	108.3	97.1	101.1	105.3
1984 Average	102.1	100.1	103.1	105.0	104.1	102.1	101.0	98.5	106.9	99.3	102.6	109.1
1983 Average	101.0	100.4	100.7	106.4	103.1	101.3	101.2	101.8	108.8	103.6	109.0	107.8
1982 Average	109.3	110.9	114.3	113.9	115.1	110.2	107.8	110.4	117.4	111.6	117.6	116.0
1981 Average	115.0	114.9	118.5	118.3	118.4	113.2	109.1	110.4	118.0	111.4	116.5	119.4
1980 Average	92.2	95.8	99.6	97.8	99.9	91.9	91.5	91.6	97.8	97.3	100.8	97.4

Source: Energy Information Administration, Petroleum Marketing Monthly, December 1987, published March 1988

World Crude Oil Price Trends

(Average price (FOB), internationally traded only, weighted by estimated volume).



Source: Energy Information Administration, Weekly Petroleum Status Report

Spot Market Product Prices

($ per bbl.)

		Motor Gasoline		Gasoil/Heating Oil		Residual Fuel Oil	
		Rotterdam Leaded Premium (98-Octane)	New York UnleadedRegular (89-Octane)	Rotterdam (0.3% Sulfur)	New York (0.2% Sulfur)	Rotterdam (1% Sulfur)	New York (1% Sulfur)
1988							
Jan.	1	18.93	18.42	20.71	21.63	13.06	15.00
	8	19.40	19.22	21.44	23.10	14.56	16.40
	15	18.58	18.90	19.90	22.26	14.48	16.90
	22	18.34	18.84	19.77	20.79	14.11	15.25
	29	17.81	18.90	18.69	20.58	13.51	14.50
Feb.	5	18.87	19.32	18.96	21.13	12.91	14.75
	12	19.10	19.26	18.76	20.69	12.91	14.75
	19	19.46	19.01	18.36	19.43	12.91	14.50
	26	20.22	18.90	18.02	19.11	12.61	14.50
Mar.	4	19.87	18.38	17.62	19.26	12.01	13.75
	11	19.05	18.48	17.76	19.32	11.56	12.75
	18	19.10	18.94	17.42	19.53	11.26	12.75
	25	19.46	19.64	18.76	20.85	11.86	13.00
	31	19.75	20.31	18.96	20.58	12.23	13.25
Apr.	8	19.98	20.37	18.90	20.06	12.53	13.00
	15	20.75	21.95	20.44	21.74	13.36	13.75
1987							
Jan.	2	18.00	19.43	20.04	19.68	15.39	17.50
	9	21.86	20.83	22.32	21.25	17.42	18.50
	16	21.51	21.11	24.26	23.21	21.02	20.00
	23	20.28	20.69	22.32	22.47	20.50	20.00
	30	20.11	20.27	21.78	21.42	17.11	19.25
Feb.	6	19.99	21.31	20.84	21.31	16.52	18.00
	13	19.51	20.37	19.50	20.06	15.31	16.25
	20	19.69	19.53	18.96	19.53	15.54	16.00
	27	19.69	19.01	17.56	18.48	14.48	15.25
Mar.	6	20.39	21.32	18.69	20.06	15.61	16.00
	13	22.21	21.53	20.30	21.15	16.21	17.00
	20	22.56	21.63	20.17	21.36	16.36	18.00
	27	22.68	22.05	20.30	20.69	15.61	17.25
Apr.	3	23.15	21.84	19.77	20.94	17.41	17.85
	10	23.44	21.00	19.97	20.06	16.66	18.15
	17	22.74	20.90	18.90	20.27	16.44	17.75
	24	22.39	21.00	19.77	20.73	17.12	18.40
May	1	22.27	21.42	19.77	20.79	16.96	18.50
	8	22.74	21.74	20.91	21.32	16.89	18.20
	15	23.74	22.79	21.05	21.95	17.12	18.50
	22	23.33	23.04	20.51	22.20	17.12	18.50
	29	23.15	23.10	20.38	21.84	16.74	18.50
June	5	23.45	23.35	20.64	21.84	16.74	18.80
	12	23.45	23.71	20.71	21.95	17.49	18.90
	19	23.45	23.52	20.78	22.20	17.49	19.10
	26	23.45	23.00	20.91	21.67	17.49	19.50
July	3	Not available.					
	10	22.98	23.35	22.18	22.95	18.39	19.75
	17	23.21	23.84	23.19	23.31	19.44	20.25
	24	23.15	23.31	22.12	22.93	20.35	20.15
	31	22.63	23.10	22.52	22.83	19.97	20.00
Aug.	7	23.21	23.00	22.45	23.04	18.92	19.35
	14	22.51	22.68	22.18	22.58	18.17	18.80
	21	21.92	21.11	20.98	21.11	16.89	18.10
	28	20.40	21.36	20.98	21.53	16.22	17.00
Sept.	4	20.75	21.48	21.38	21.78	16.97	17.25
	11	20.28	21.74	21.05	21.95	16.82	17.25
	18	20.05	22.26	21.05	21.63	16.67	17.25
	25	20.16	21.88	21.18	22.30	16.07	17.00
Oct.	2	21.40	21.63	21.85	22.68	16.37	17.00
	9	21.40	21.95	22.45	23.25	16.66	17.40
	16	21.21	22.62	22.31	23.52	16.66	17.40
	23	21.62	23.63	23.39	24.09	16.66	17.40
	30	21.57	23.21	22.85	24.05	16.36	17.40
Nov.	6	21.10	21.95	22.05	23.21	15.76	17.40
	13	20.86	22.20	22.31	24.05	15.91	17.40
	20	20.57	21.21	21.78	23.14	14.48	16.75
	27	20.69	21.42	22.05	23.46	14.78	16.75
Dec.	4	20.69	20.79	22.31	24.36	14.78	17.00
	11	20.22	19.95	21.98	23.63	14.71	16.50
	18	19.51	17.79	19.83	21.32	13.58	14.75
	25	Not available.					

Source: Energy Information Administration, Weekly Petroleum Status Reports.

International Prices for Gasoline and Fuel Oil

(U.S. $ per gal. for gasoline, pump retails, all taxes included. U.S. $ per gal. for distillate and kerosine but $ per bbl. for residual oil; all taxes are included except for U.S. fuel oils.)

	1/1/87					1/1/86				
	Automotive Fuels		Residential			Automotive Fuels		Residential		
Country	Leaded Premium Gasoline	Diesel Fuel	Distillate	Kerosine	Industrial Residual	Leaded Premium Gasoline	Diesel Fuel	Distillate	Kerosine	Industrial Residual
WESTERN HEMISPHERE										
Argentina	$1.83	$0.68	NA	$0.79	$18.11	$1.82	$0.73	$0.69	$0.80	$20.24
Bolivia	1.14	1.18	NA	.85	NA	.98	.98	NA	.98	NA
Brazil	2.94	1.92	NA	1.07	NA	1.81	1.17	NA	1.21	23.22
Canada	1.30*	1.26	$0.76	1.34	13.19	1.38*	1.30	1.01	1.29	NA
Chile	1.23	.95	NA	.80	21.71	1.64	1.35	.90	1.30	40.84
Columbia	NA	NA	NA	NA	NA	.70	.62	.35	.51	NA
Dominican Republic	NA	NA	NA	NA	NA	1.25	1.41	1.07	.98	54.10
Ecuador	.44	.27	NA	.10	20.65	.67	.41	NA	.14	10.76
El Salvador	NA	NA	NA	NA	NA	3.88	2.10	NA	2.28	42.00
Jamaica	1.65	1.20	.73	.68	22.76	1.66	1.20	.95	.68	34.20
Mexico	.71	.61	.18	.30	15.51	1.02	.61	.21	.46	7.57
Panama	NA	NA	NA	NA	NA	1.98	1.19	NA	1.10	NA
Paraguay	5.03	2.60	NA	3.15	69.44	4.10	2.21	NA	2.21	49.68
Peru	1.50	.92	NA	.24	33.56	1.50	1.07	NA	.27	37.20
United States	.82*	.87	.73**	.83**	12.18**	1.19*	1.16	1.06**	1.05**	22.22**
Uruguay	2.29	1.31	1.03	1.21	24.33	2.86	1.63	1.29	1.59	30.44
Venezuela	.75	.18	NA	.32	5.30	.60	.18	NA	.25	4.24
WESTERN EUROPE										
Austria	2.64	1.98	1.25	NA	NA	2.60	1.95	1.08	NA	34.28
Belgium	2.37	1.30	.72	.62	16.26	2.26	1.42	1.04	1.12	22.30
Denmark	3.58	2.29	2.22	1.82	20.00	2.54	1.12	1.49	1.63	25.41
Finland	2.64	1.83	.82	1.05	21.42	2.63	1.90	1.07	1.39	22.92
France	2.95	1.91	1.20	NA	20.21	2.58	1.87	1.38	NA	28.90
Germany, West	2.09	1.67	.74	NA	18.12	2.04	1.70	1.00	NA	25.68
Greece	2.16	1.05	1.05	NA	28.52	2.04	1.04	1.06	NA	29.10
Ireland	3.24	2.28	1.18	NA	26.54	2.97	.90	1.22	NA	32.22
Italy	3.71	1.55	1.63	1.56	15.60	3.09	1.40	1.48	1.58	23.88
Luxembourg	1.94	1.23	.78	.68	17.60	2.02	1.54	1.15	1.09	26.99
Netherlands	2.84	1.37	1.14	NA	20.93	2.26	1.28	1.17	NA	24.60
Norway	2.72	1.09	1.00	1.08	24.16	2.52	1.11	1.23	1.27	27.33
Portugal	2.98	1.69	1.75	1.73	19.53	2.76	1.68	1.68	1.63	30.02
Spain	2.28	1.51	.99	1.70	16.57	2.30	1.53	1.12	NA	30.36
Sweden	2.39	1.47	1.10	NA	39.88	2.26	1.40	1.32	NA	37.36
Switzerland	2.38	2.46	.71	NA	20.91	2.18	2.38	.92	NA	24.91
Turkey	NA	NA	NA	NA	NA	1.25	.84	.84	.88	22.22
United Kingdom	2.24	1.77	.82	NA	21.01	2.24	1.93	1.06	NA	12.60
Yugoslavia	2.03	1.62	.90	.81	18.07	NA	NA	NA	NA	NA
MIDDLE EAST										
Israel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iran	NA	NA	NA	NA	NA	1.59	NA	.41	.10	NA
Saudi Arabia	.35	.12	NA	.20	NA	NA	NA	NA	NA	NA
AFRICA										
Ethiopia	2.40	1.44	1.21	1.20	41.48	NA	NA	NA	NA	NA
Ghana	NA	NA	NA	NA	NA	1.08	.88	NA	.57	20.31
Kenya	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Morocco	NA	NA	NA	NA	NA	2.39	1.36	NA	1.23	27.90
South Africa	1.50	1.47	.96	.71	29.75	1.58	1.55	NA	.75	31.34
Tunisia	2.08	NA	1.15	.65	16.42	2.17	NA	.78	.66	17.14

International Prices (continued)

(U.S. $ per gal. for gasoline, pump retails, all taxes included. U.S. $ per gal. for distillate and kerosine but $ per bbl. for residual; all taxes are included except for U.S. fuel oils.)

	1/1/87					1/1/86				
	Automotive Fuels		Residential			Automotive Fuels		Residential		
Country	Leaded Premium Gasoline	Diesel Fuel	Distillate	Kerosine	Industrial Residual	Leaded Premium Gasoline	Diesel Fuel	Distillate	Kerosine	Industrial Residual
ASIA PACIFIC										
Australia	1.41	1.25	NA	NA	NA	2.68	1.26	NA	NA	NA
Burma	NA	NA	NA	NA	NA	.45	.32	.24	.32	NA
Indonesia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
India	2.17	1.01	NA	.65	33.51	NA	NA	NA	NA	NA
Japan	2.89	1.80	1.10	1.08	22.00	2.84	1.83	1.84	1.32	39.75
New Zealand	1.69	1.27	1.27	NA	27.73	1.76	1.35	1.38	NA	36.84
Pakistan	1.67	.84	NA	.66	13.66	1.83	1.01	NA	.78	NA
Philippines	1.28	.88	NA	.89	19.46	1.47	1.14	.82	1.15	NA
Singapore	1.66	.67	NA	.55	15.55	2.17	.99	.71	1.01	NA
Sri Lanka	1.79	1.07	NA	.87	20.71	1.86	1.12	NA	.91	27.29
Thailand	1.30	.92	.47	.89	15.80	1.66	.95	.51	.88	21.39

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*Unleaded regular grade gasoline in Canada and U.S., unleaded premium in all other countries; ** Excludes taxes, all other countries include taxes in distillate, kerosine and residual prices; NA = Not available or not reported.

Source: International Energy Annual 1986, Energy Information Administration; gasoline and fuel oil prices are for the capital cities of each country except those of the U.S., which are the national average for the periods quoted.

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Station Dollars Up, Numbers Down

Service stations are projected to do more business in the current year—in terms of total dollar volume—than ever before, despite projections by federal statisticians that total station counts will be down again.

The federal forecasters say 5,000 service stations vanished from the American scene in 1987 and the probability is that the national total will be reduced by another 3,000 this year.

This new projection is contained in the U.S. Commerce Department's "Franchising in the Economy 1986-88," which was published in February. The study said the decline in 1987 was a bit sharper than it had forecast last year. It had expected a drop of about 3,000; instead it was closer to 5,000 units.

But, as in the past, not all of this is bad news. Many of the smaller stations are still being replaced by bigger, fancier outlets fully capable of handling the neighborhood and transient gallonage and customers. In other words, where three or four smaller stations may have disappeared, one big 200,000 gal./month unit probably replaced them. This procedure has been going on for the past decade so there is nothing new or surprising in it.

A recent projection by McGraw-Hill, Inc., for example, said that U.S. oil companies had scheduled the biggest investment in marketing facilities in history for the 1987-88-89 periods. These marketing expenditures exceed $14-billion for the three-year period, much of it going into new and modernized stations, pumps and other customer-oriented services.

The new federal forecast anticipates a service station population of 112,000 by the end of this year. This will be the lowest number since the mid-1920s. The American Petroleum Institute's Centennial Yearbook, published in 1959, indicates there were 121,513 service stations in 1929. Data before that time are lost in the clouds of antiquity.

The 1988 projection means the U.S. service station population has been literally cut in half since the all-time peak of 226,500 outlets in 1972. Most of the stations that vanished did so in the late'70s and early '80s when the 'Mom and Pops' and the numerous 10,000 gal./month units were simply unable to survive in the traumatic atmospheres of shortages, excesses and changing economics.

A point to remember, to keep all these dour numbers in perspective, however, is that the Commerce Department statistics identify "service stations" as those that generate 50% or more of their revenues from the sale of gasoline and oil products. This is the same definition that is used by the Census Bureau which currently is engaged in completing the nose count it is required to do at five-year intervals. The Census Bureau numbers are not expected to be available until sometime in 1989 at the earliest, however.

Thus, this Commerce Department report excludes the convenience stores and other independents, such as automobile dealerships, garages and mass merchandisers who also sell great volumes of gasoline but as a secondary cash-flow activity. The convenience store industry retails gasoline at a little more than half of its population which is now estimated at 75,000 stores.

If these 37,500 stores are added to the Commerce Department estimate of 112,000 stations by next Dec. 31, it would give motorists at least 150,000 places where they can buy motor fuel at this time. Throw in maybe another 15,000 to 20,000 or so for mass merchandisers, garages, dealerships, truck stops etc., and the public total likely could be around 165,000 to 170,000 now.

Hunter Publishing Co., NPN's corporate parent, says the gasoline retail outlet universe was somewhere around 186,000 early last year. Its study gave 127,300 as the total for orthodox service stations, 55,700 for convenience stores and mass merchandisers, and 3,000 for truckstops.

Absolute statistics for the service station world are virtually impossible to come by. The federal studies, even including the official U.S. Census Bureau nose count, contain estimates of one sort or another for some groups. There's no getting around the fact that no one has hard and fast numbers on the population; only estimates.

The dollar sales at the nation's service stations were not as great as had been expected, even though they were high and still growing.

The January 1987 report, for example, said gross sales at the stations would be $90.3-billion in 1986 and $94.9-billion in 1987. Instead, the new study said they amounted to $86.6-billion in 1987 and would rise to $91.9-billion this year. The revisions can be accounted for easily by the collapse of product prices in early 1987 and depressed levels that still continue to this day. Prices generally are improving but they're still way below the highs registered before the market downfall in late 1986 and throughout most of 1987.

1988 Outlook: Service Station Dollars Are Up; Population is Down (Again)

	1988	1987	1986	% Change '88 v '87	% Change '87 v '86
Number of Establishments (a)	112,000	115,870	120,510	(3.3%)	(3.8%)
Company-owned	20,160	20,857	21,692	—	—
Franchisee-owned	91,840	95,013	98,818	—	—
Total Sales of Products and Services ($000,000)	$91,894	89,217	86,618	3.0	3.0
Company-owned	$16,541	16,059	15,591	—	—
Franchisee-owned	$75,353	73,158	71,027	—	—
Average per station	$820,482	769,975	718,762	6.6	7.1

(a) As of Dec. 31 of each year; Service Stations as defined by Commerce and Census Bureaus, i.e., 50% or more of their incomes must come from gasoline sales.

Source: "Franchising in The Economy, 1986-1988", U.S. Dept. of Commerce, February 1988.

Comparable U.S. Census Bureau Data (a)

	1982	1977	1972	% Chng. '82 v '77	% Chng. '82 v '72
No. of stations (b)	116,154	147,618	183,365	-21.3%	-19.5%
Total sales ($000,000)	$94,832	$53,749	$31,440	76.4	71.0
Average per station	$816,433	$364,108	$171,461	124.2	112.4
No. of employees	604,286	672,673	747,668	-10.2	-10.0

(a) Censuses are made every five years. Normally, the count includes stations with payrolls and those without payrolls, i.e., the 'moms and pops' and small family operations. In 1982, the Census Bureau overlooked the stations without payrolls, however, so the comparisons in this table are for stations with payrolls, which represented about 81% of the population in 1972 and 83% of the population in 1977. A new Census was made in 1987, but the details are not expected to be released until late 1988 or early 1989. (b) Stations are those which, by Census Bureau definition, generate 50% or more of their sales dollars from gasoline.

Source: U.S. Department of Commerce, Census of Retail Trade for 1982, 1977 and 1972.

The Rise and Fall of U.S. Service Stations

	No. of Stations (a)			Sales ($000,000)		
Year	Total	Company-owned	Franchisee-owned	Total	Company-owned	Franchisee-owned
1988	112,000	20,160	115,870	$91,894	$16,541	$75,353
1987	115,870	20,857	95,013	89,217	16,059	73,158
1986	120,510	21,692	98,818	86,618	15,591	71,027
1985	124,600	22,428	102,172	100,492	18,089	82,403
1984	132,080	23,774	108,306	100,767	18,138	82,629
1983	136,570	24,583	111,987	103,121	18,561	84,560
1982	144,690	26,044	118,646	106,544	19,178	87,366
1981	151,250	27,225	124,025	105,145	18,926	89,219
1979	164,780	31,310	133,480	71,894	13,660	58,234
1977	176,465	33,375	141,160	58,231	11,646	46,585
1975	189,480	37,896	151,584	47,387	9,477	37,910
1972(b)	226,459	44,200	176,259	33,656	6,812	26,844

(a) As defined by U.S. Census Bureau, stations with 50% or more of their income from petroleum product sales; (b) Peak year for stations.

Source: "Franchising in the Economy, 1986-1988", U.S. Department of Commerce, February, 1988.

Service Stations With Payrolls—Populations by States 1988 vs. 1982[a]

The service station population totals on this page are based on more limited data than had been used in earlier *NPN Factbooks* and are projections by *NPN* rather than by government sources. The change was necessitated by the fact that the U.S. Census Bureau inadvertently limited its 1982 Census Study to stations with payrolls, thereby omitting all of the very small stations without formal payrolls. The stations with payrolls reflect about 85% to 90% of the industry as it is now constituted. Bear in mind also that these stations are true service stations, i.e., stations which get more than half of their revenues from gasoline sales. The totals do not include convenience stores and other places that sell gasoline as a secondary product.

	Total Gasoline Service Stations				Total Sales (add 000)			
	1988(a)	1987(a)	1986(a)	1982(b)	1988(a)	1987(a)	1986(a)	1982(b)
Alabama	1,544	1,597	1,660	2,001	1,420,499	1,379,127	1,338,954	1,172,677
Alaska	136	140	146	176	249,414	242,150	235,096	205,901
Arizona	929	961	999	1,204	1,582,479	1,536,389	1,491,635	1,306,398
Arkansas	938	970	1,009	1,216	928,590	901,545	875,283	766,587
California	8,199	8,479	8,814	10,624	12,745,534	12,374,320	12,013,863	10,521,934
Colorado	1,212	1,253	1,302	1,570	1,731,759	1,681,321	1,632,345	1,429,634
Connecticut	1,332	1,377	1,432	1,726	1,751,784	1,700,764	1,651,221	1,446,166
Delaware	232	239	249	300	321,646	312,278	303,181	265,531
D.C.	122	126	131	158	218,065	211,734	205,566	180,038
Florida	4,248	4,393	4,566	5,504	5,788,859	5,620,258	5,456,543	4,778,928
Georgia	2,375	2,456	2,553	3,077	2,886,247	2,802,185	2,720,559	2,382,709
Hawaii	283	293	304	367	491,878	477,552	463,641	406,064
Idaho	381	394	410	494	427,520	415,068	402,977	352,934
Illinois	3,961	4,096	4,258	5,132	5,560,664	5,398,709	5,241,448	4,590,544
Indiana	2,444	2,527	2,627	3,167	3,302,660	3,206,470	3,113,067	2,726,474
Iowa	1,593	1,647	1,712	2,064	1,665,169	1,616,671	1,569,578	1,374,662
Kansas	1,166	1,206	1,254	1,511	1,293,129	1,255,466	1,218,895	1,067,528
Kentucky	1,635	1,691	1,758	2,119	1,881,369	1,826,574	1,773,367	1,553,143
Louisiana	1,522	1,574	1,636	1,972	1,859,188	1,805,039	1,752,459	1,534,832
Maine	494	511	531	640	466,650	453,059	439,862	385,238
Maryland	1,449	1,498	1,557	1,877	2,422,263	2,351,714	2,283,210	1,999,672
Massachusetts	2,286	2,364	2,457	2,962	2,808,132	2,726,345	2,646,928	2,318,222
Michigan	3,187	3,296	3,426	4,130	4,836,042	4,695,193	4,558,424	3,992,341
Minnesota	1,719	1,778	1,848	2,228	2,476,282	2,404,160	2,334,128	2,044,267
Mississippi	919	951	988	1,191	832,048	807,815	784,283	686,888
Missouri	2,272	2,350	2,442	2,944	2,699,430	2,620,809	2,544,466	2,228,484
Montana	407	421	438	528	483,852	469,760	456,076	399,439
Nebraska	871	901	937	1,129	900,282	874,062	848,601	743,218
Nevada	367	380	395	476	683,521	663,613	644,283	564,273
New Hampshire	422	437	454	547	483,892	469,799	456,114	399,472
New Jersey	3,208	3,318	3,449	4,157	3,821,526	3,710,224	3,602,147	3,154,818
New Mexico	602	622	647	780	782,457	759,668	737,540	645,949
New York	4,884	5,050	5,250	6,328	5,335,169	5,179,782	5,028,897	4,404,389
North Carolina	2,353	2,433	2,529	3,049	2,296,803	2,229,908	2,164,952	1,896,100
North Dakota	326	337	350	422	439,319	426,524	414,100	362,675
Ohio	4,556	4,712	4,898	5,904	6,424,469	6,237,356	6,055,666	5,303,649
Oklahoma	1,234	1,276	1,327	1,599	1,379,614	1,339,433	1,300,416	1,138,925
Oregon	1,151	1,191	1,238	1,492	1,341,575	1,302,501	1,264,560	1,107,522
Pennsylvania	4,461	4,614	4,796	5,781	5,179,309	5,028,462	4,881,985	4,275,721
Rhode Island	397	411	427	515	448,308	435,251	422,573	370,096
South Carolina	1,286	1,330	1,382	1,666	1,451,297	1,409,028	1,367,984	1,198,102
South Dakota	411	425	442	533	432,148	419,562	407,340	356,755
Tennessee	1,922	1,987	2,066	2,490	2,371,406	2,302,339	2,235,273	1,957,688
Texas	6,338	6,555	6,814	8,213	7,963,625	7,731,684	7,506,465	6,574,282
Utah	650	672	699	842	796,202	773,013	750,496	657,296
Vermont	277	287	298	359	263,318	255,649	248,202	217,379
Virginia	2,047	2,116	2,200	2,652	2,980,200	2,893,402	2,809,118	2,460,271
Washington	1,656	1,713	1,780	2,146	2,055,674	1,995,803	1,937,666	1,697,039
West Virginia	819	847	880	1,061	858,972	833,955	809,662	709,115
Wisconsin	2,084	2,156	2,241	2,701	2,555,438	2,481,010	2,408,740	2,109,613
Wyoming	332	343	357	430	482,858	468,795	455,139	398,618
Total	**89,640**	**92,699**	**96,361**	**116,154**	**114,858,553**	**111,513,296**	**108,264,974**	**94,820,200**

(a) Projected by *NPN* on the basis of Census Bureau and other Commerce Department data. However, as noted above, these data are for stations with payrolls—not the "universe" of the *Factbook* published in prior years. These stations, by Census Bureau definition, are those which generate more than half of their dollar sales through the sale of gasoline products.

(b) U.S. Census Bureau, Retail Trades Census, 1982, published in 1984.

Gasoline Shares by Key Categories—1987

In 1985, a new study on the retail gasoline market was completed by MPSI Americas, Inc., Tulsa, Olka., a firm specializing in international computer software and information services as well as market research and planning. Now, MPSI has released its updated study covering the year 1987.

Presented with the data on regional and national market shares for 1987 (see table below) are the data for 1986. This comparison offers indications of the trends within the various marketing segments.

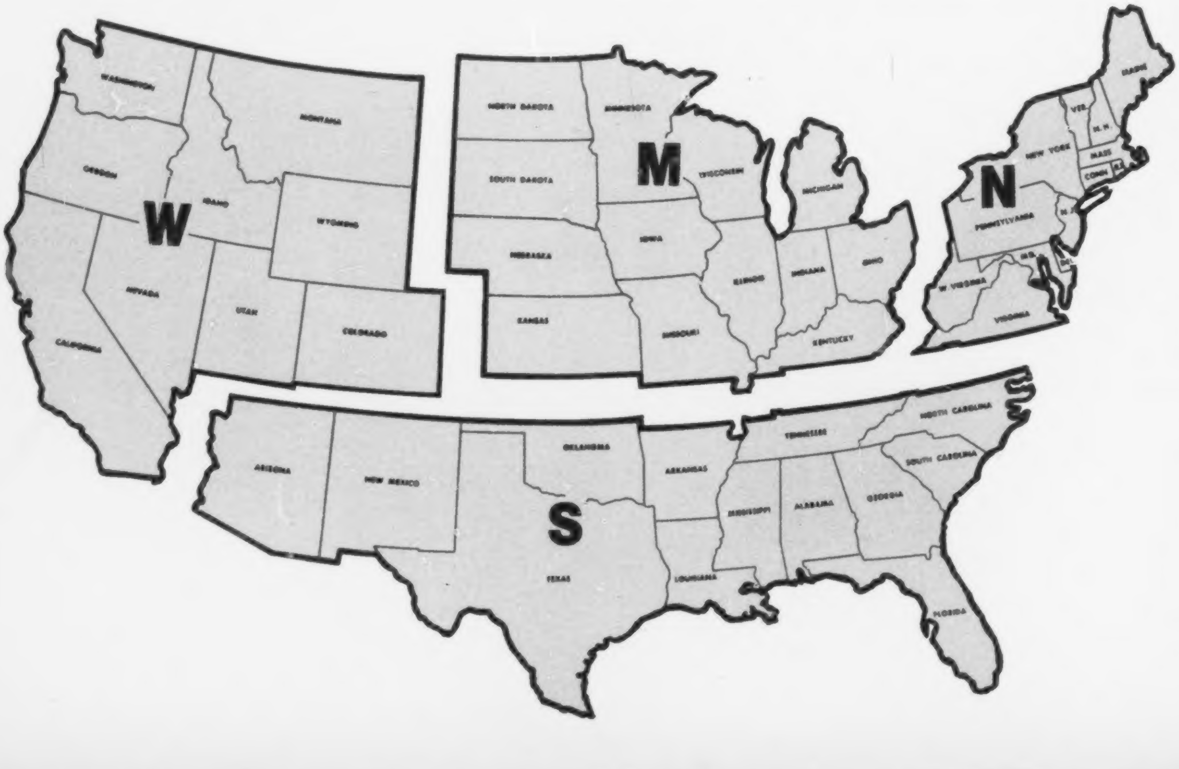
The study breaks out, on both a national and regional basis, market shares and percentage of outlets for conventional service stations, volume pumpers, convenience stores that sell gasoline, plus a catch-all category of "others" including car washes, garages and other facilities.

This study involves primarily the metropolitan areas of the U.S., where most gasoline is marketed. No attempt was made to count rural vendors or highway units which, while important to the industry, do not add materially to overall consumption.

Regional and National Market Shares

	Service Stations		Pumpers		Convenience Food Stores		Others		Total	
	1987	1986	1987	1986	1987	1986	1987	1986	1987	1986
Northeastern Region										
• % of Outlets	58.7	59.0	24.4	24.4	5.2	4.6	11.7	12.0	100.0	100.0
• % of Volume	52.4	53.5	41.7	40.9	2.9	2.7	3.0	2.9	100.0	100.0
• Avg. Monthly Volume (Gallons)	58,914	63,338	124,883	124,551	37,806	35,488	16,766	16,295	65,375	70,972
Midwestern Region										
• % of Outlets	39.0	41.3	39.9	36.8	8.6	8.7	12.5	13.2	100.0	100.0
• % of Volume	32.6	33.4	58.1	56.3	6.0	5.9	3.3	4.4	100.0	100.0
• Avg. Monthly Volume (Gallons)	59,152	54,000	105,714	102,147	46,202	45,347	19,059	22,466	72,751	68,806
Sunbelt Region										
• % of Outlets	27.2	30.8	30.0	29.9	30.2	27.1	12.6	12.2	100.0	100.0
• % of Volume	26.8	31.1	54.0	52.7	15.2	12.5	4.0	3.7	100.0	100.0
• Avg. Monthly Volume (Gallons)	57,045	57,355	104,383	104,762	28,995	27,118	18,646	17,642	57,916	57,107
Western Region										
• % of Outlets	52.9	54.1	31.9	29.9	7.1	6.7	8.9	9.3	100.0	100.0
• % of Volume	45.1	45.1	48.3	47.8	4.3	4.3	2.3	2.8	100.0	100.0
• Avg. Monthly Volume (Gallons)	56,100	56,009	114,870	112,000	36,850	33,931	20,907	20,782	69,515	63,558
Total United States										
• % of Outlets	43.7	46.0	29.6	29.3	15.2	13.0	11.5	11.4	100.0	100.0
• % of Volume	40.9	41.6	48.7	48.4	7.2	6.6	3.2	3.4	100.0	100.0
• Avg. Monthly Volume (Gallons)	56,983	57,465	112,106	111,554	31,780	31,777	18,656	18,512	65,079	63,957

Source: MPSI Americas, Inc., Tulsa, Oklahoma.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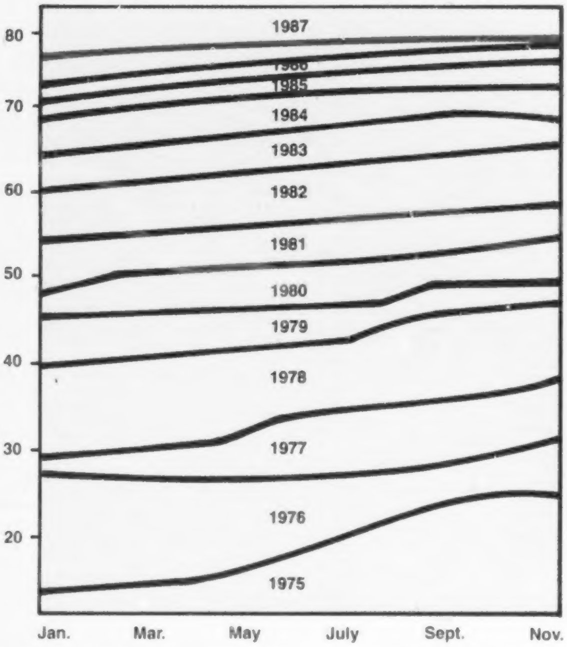
VIRGINIA
S
ARIZONA
NEW MEXICO
OKLAHOMA
ARKANSAS
TENNESSEE
NORTH CAROLINA
SOUTH CAROLINA
MISSISSIPPI
ALABAMA
GEORGIA
TEXAS
LOUISIANA
FLORIDA

Self Serve Edges Up

Four out of five American motorists now prefer to pump their own gasoline, according to Amoco Oil Co.'s latest opinion poll. In October 1987, 79% of motorists used the self serve pumps, up 1% from the previous year. Self serve preference has soared from on 13% in 1975, based on Amoco's monthly surveys.

U.S. Self-Serve Motorist Gasoline Market Share (%)



State (a)	'86	'87	State (a)	'86	'87
Alabama	80%	82%	Montana	89%	90%
Arizona	90	92	Nebraska	78	78
Arkansas	83	82	Nevada	87	91
California	89	90	New Hampshire	65	64
Colorado	91	93	New Mexico	87	91
Connecticut	69	69	New York	56	57
Delaware	82	84	North Carolina	85	87
District of Col.	80	85	North Dakota	76	80
Florida	89	90	Ohio	83	84
Georgia	85	87	Oklahoma	85	86
Idaho	89	87	Pennsylvania	64	64
Illinois	87	88	Rhode Island	66	66
Indiana	86	87	South Carolina	87	88
Iowa	83	83	South Dakota	80	80
Kansas	82	82	Tennessee	83	84
Kentucky	78	77	Texas	91	92
Louisiana	88	90	Utah	93	94
Maine	56	52	Vermont	56	55
Maryland	84	85	Virginia	88	89
Massachusetts	50	50	Washington	90	92
Michigan	85	85	West Virginia	74	74
Minnesota	81	82	Wisconsin	89	89
Mississippi	82	82	Wyoming	84	84
Missouri	82	83			

(a) Self-Service is illegal in New Jersey and Oregon.
Source: Amoco Oil, Monthly Survey.

Tokheim 785 Commercial Pumps

Reliable, Accurate, Versatile and Brighter than ever.

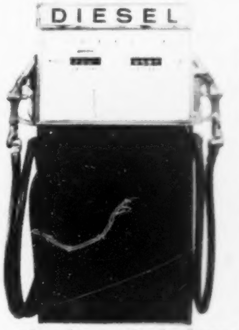
At Tokheim, just making an industry-leading product isn't enough. That's why we keep improving our popular 785 commercial pumps.

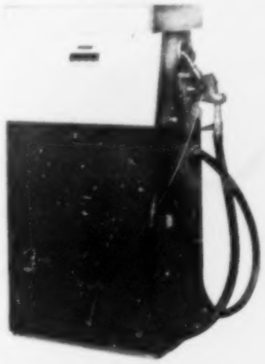
For years, commercial fueling operations have made the 785 their first choice for accuracy. (Our positive displacement meter is the best in the business!)

There's also the matter of versatility. (You can order a 785 single or twin-hose, standard or high-volume.)

And now, to top it off, we've added the option of a fully lighted display. So along with all the other advantages of 785 pumps, you can shed a little light on your fueling operation.

Ask your Tokheim representative about how our 785 Series can keep your operation flowing smoothly—day or night. If you're looking for the brightest ideas in the industry, there's never been a better time to Talk to Tokheim.





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Talk to Tokheim

Business at Service Stations

Dollar Volume and Product Sales

					Gasoline		Motor oil	
Year	No. of service stations(a)	Total sales (add 000,000,000)	Avg. sales per station (add 000)	Passenger car population (add 000)	Avg. gal. consumed per car per year	Total consumption (add 000,000 gal.)	Qts. per year	Sales (add 000,000 qt.)
1988(b)	112,000	$ 91.9	$821	142,691	510	72,972(c)	—	—
1987(b)	115,870	89.2	770	139,041	515(c)	71,606(c)	—	—
1986	120,510	86.6	719	135,431	525(c)	71,101(c)	—	—
1985	124,600	100.8	809	131,864	525(c)	69,229(c)	—	—
1984	132,080	101.0	765	128,270	536(c)	68,914(c)	—	—
1983	136,570	103.1	755	126,727	553(c)	70,080(c)	—	—
1982	144,690	106.2	733	123,746	566(c)	70,040(c)	7.3	907
1981	151,250	101.7	672	123,462	576(c)	71,114(c)	7.3	909
1979	164,790	70.9	430	120,248	653(c)	78,522(c)	7.3	880
1977	176,465	56.5	320	113,696	716(c)	81,406(c)	7.9	900
1975	189,480	43.8	232	106,712	716(c)	76,406(c)	9.5	1,014
1972(d)	226,459	33.7	149	96,567	785(c)	75,805(c)	10.0	966

(a) Franchising in the Economy 1986-88, Department of Commerce; by definition of Census Bureau these are stations that get 50% or more of gross sales from petroleum products; (b) Preliminary and estimated by *NPN* and others; (c) In September 1987, Federal Highway Administration revised its gallonage consumption data and re-calculated the averages back to 1970, thus these figures are not comparable with prior data in *NPN Factbook*; (d) Peak year for service stations.

Sources: Franchising in the Economy, 1986-1988; Federal Highway Administration and *NPN*.

Station Customers

		Privately owned passenger cars		Households owning cars		Licensed drivers		Women drivers	
Year	No. of service stations(a)	Total (add 000)	Avg. per station	Total (add 000,000)	Avg. per station	Total (add 000,000)	Avg. per station	Total (add 000,000)	Avg. per station
1988(b)	112,000	142,691	1,274	78.0	696	164.5	1,469	79.0	705
1987(b)	115,870	139,041	1,200	77.0	665	162.0	1,398	77.9	672
1986	120,510	135,431	1,124	76.0	631	159.4	1,323	76.2	632
1985	124,600	132,108	1,060	75.0	602	156.9	1,259	75.3	604
1984	132,080	128,270	971	74.0	560	155.4	1,176	74.3	562
1983	136,570	126,727	927	73.0	534	154.2	1,129	73.4	537
1982	144,690	123,746	855	72.0	497	150.3	1,038	71.7	491
1981	151,250	123,462	816	70.0	460	147.0	969	69.2	457
1979	164,790	120,248	731	65.9	400	143.3	868	66.8	403
1977	176,465	113,696	644	63.3	365	138.4	784	63.7	361
1975	189,480	106,712	563	60.5	319	127.8	662	56.8	294
1972(c)	226,459	96,567	426	52.8	232	118.4	522	52.6	232

(a) Franchising in the Economy 1986-88, Department of Commerce, Bureau of Census definition of service stations: 50% or more of dollar volume comes from the sale of petroleum products; (b) Estimates by *NPN* and others; (c) Peak year.

Source: Based on data from Motor Vehicle Mfgs. Assn., Federal Highway Administration, and *NPN*.

How Stations Rank in Sales

(Billions of Dollars)

	1987	% Change '87-'86	1986	% Change '86-'85	1985	% Change '85-'84	1984	% Change '84-'83
All Retail Stores	1,505.6	3.5%	1,454.4	5.4%	1,379.6	6.7%	1,293.0	10.1%
Automotive Group	340.8	1.5	335.8	7.7	311.6	1.2	278.5	19.6
Food Group	303.1	2.4	296.0	4.3	283.9	5.0	270.4	6.1
General Merchandise	164.0	5.7	155.2	3.8	149.5	(2.2)	152.9	9.7
Eating and Drinking Places	152.4	5.2	144.9	8.6	133.4	7.1	124.5	8.5
Gasoline Service Stations	**89.4**	**3.2**	**86.6**	**(14.4)**	**101.2**	**1.8**	**99.4**	**0.5**
Apparel Group	84.8	5.1	80.7	8.6	74.3	14.1	65.1	8.0

Source: Survey of Current Business, Vol. 68, No. 1, January 1988

Personal Consumption Expenditures

	(Billions of Dollars)						Seasonally Adjusted at Annual Rate—1987			
	1987	% Change '87-'86	1986	% Change '86-'85	1985	% Change '85-'84	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Total Expenditures	$2,966.0	5.9%	$2,799.8	7.7%	$2,600.5	3.2%	$2,893.8	$2,943.7	$3,011.3	$3,015.1
Durable Goods	413.9	2.8	402.4	12.0	359.3	8.5	396.1	409.0	436.8	413.8
Automobiles	194.5	(0.2)	194.9	15.2	169.2	10.0	177.6	189.6	215.2	195.8
Furniture	146.3	4.6	139.9	10.3	126.8	6.2	146.0	146.0	147.9	145.4
Other Durable	73.1	8.1	67.6	6.8	63.3	9.3	72.5	73.5	73.7	72.6
Nondurable Goods	980.4	4.4	939.4	3.8	905.1	3.7	969.9	982.1	986.4	983.4
Food	514.5	3.3	497.8	6.1	469.3	3.9	514.8	515.0	514.0	514.1
Clothing and Dress	176.5	5.4	167.5	7.9	155.2	5.3	174.0	175.8	178.7	177.3
Gasoline and Oil	**79.9**	**6.1**	**75.3**	**(18.1)**	**91.9**	**1.3**	**75.8**	**80.6**	**82.7**	**80.5**
Other Nondurable Goods	209.6	5.4	198.8	5.3	188.7	3.3	205.3	210.7	211.0	211.5
Fuel Oil and Coal	15.9	(0.6)	16.0	1.9	15.7	(12.3)	15.4	16.1	15.6	16.3
Other Nondurable	193.8	6.0	182.8	5.7	172.9	5.0	189.8	194.6	195.5	195.1
Services	1,571.6	7.8	1,458.0	9.1	1,336.1	9.5	1,527.7	1,552.6	1,588.1	1,618.0

Source: Survey of Current Business, Department of Commerce, Vol. 68, No. 1, January 1988.

Retail Rankings: Shrinkage at the Top

Put the numbers together on the major oil company station counts and some interesting patterns emerge.

Consider the following. The retail outlet numbers reported to the NPN Factbook this year by major companies clearly show a substantial and perhaps surprising shrinkage in the total number of stations owned by the six top-ranked firms. These companies—Texaco, Exxon, Chevron, Mobil, Amoco and Shell—spun off a combined total of 5,340 stations in the one-year span between 1986 and 1987.

But, while the top six were paring down their retail networks into a leaner marketing profile, the next four companies in the retail pecking order—Unocal, Phillips, BP America and Citgo—were adding a combined total of 501 outlets in the same period. In fact, 10 out of the 12 next reporting companies had increases in station counts in 1987.

It's not surprising that the big six are culling out their networks; industry restructuring has been taking place for several years. Apparently, though, some of the more aggressive second-tier majors adopted a different marketing strategy. Call it "restructuring upward."

		Outlets	*1986*
1	**Texaco**	17,623	(1)
2	**Exxon**	13,451	(2)
3	**Chevron**	12,928	(3)
4	**Mobil**	11,795	(4)
5	**Amoco**	11,291	(5)
6	**Shell**	10,947	(6)
7	**Unocal**	10,817	(8)
8	**Phillips**	10,731	(7)
9	**BP America (a)**	7,716	(9)
10	**Citgo**	7,458	(10)
11	**Conoco**	5,918	(11)
12	**Sun**	5,813	(12)
13	**Gulf (Cumberland Farms)**	4,463	(14)
14	**American Petrofina**	4,117	(13)
15	**Marathon**	2,488	(16)
16	**Sinclair (b)**	2,479	(15)
17	**Total**	2,394	(20)
18	**Getty**	2,298	(17)
19	**Ashland**	2,103	—(c)
20	**Diamond Shamrock**	1,976	(18)
21	**Kerr-McGee**	1,937	(19)
22	**Arco**	1,738	(21)

	Number of States*		Branded retail outlets	
	'87	'86	'87	'86
American Petrofina	24	24	4,117	4,209
Amoco	30	30	11,291	12,337
Arco	5	6	1,738	1,719
Ashland	18	16	2,103	715
BP America (a)	29	29	7,716	7,623
Chevron	34	33	12,928	13,879
Citgo	39	39	7,458	7,296
Conoco	39	40	5,918	6,860
Diamond Shamrock	9	12	1,976	2,016
Exxon	37	37	13,451	14,468
Getty	11	11	2,298	2,191
Gulf (Cumberland Farms)	13	11	4,463	4,180
Kerr-McGee	21	22	1,937	1,960
Marathon	6	6	2,488	2,395
Mobil	37	40	11,795	12,619
Phillips	36	37	10,731	10,669
Shell	41	41	10,947	11,133
Sinclair (c)	—	24	—	2,479
Sun	28	29	5,813	5,662
Texaco	44	46	17,623	18,939
Total	18	19	2,394	1,915
Unocal	41	41	10,817	10,633

Source: NPN questionnaires
(a) Formerly Standard Oil of Ohio
(b) Not ranked in 1986
(c) Did not report for 1987, numbers are for 1986

Amoco Leads in Credit Card Accounts, Texaco Takes Top Spot in Sales

Oil company credit card sales volume dropped between 1985 and 1986, probably reflecting lower oil prices, The Nilson Report, a newsletter for credit card executives in the oil and other industries, says.

The Report shows that oil company proprietary credit card sales, which account for 43% of consumer purchases at gasoline stations, fell from $26-billion in 1985 to $21-billion last year. Total oil company credit card sales, which includes bank cards, travel and expense cards (American Express, Diners Club, Carte Blanche, etc.), Discover and Choice cards in addition to proprietary cards, declined from $28.8-billion in 1985 to $24.1-billion last year.

According to the Report, Texaco had the highest total credit card volume of all the majors, $3.99-billion. This was, however, slightly lower than the $4.26-billion in 1985. Chevron was second, with $3.15-billion, and Amoco third, with $3.11-billion.

The 1986 Report, which includes credit card information on 34 oil companies (six more than its last oil industry update), also provides data on: oil company active accounts, number of proprietary and other credit cards in use, credit card losses, outstanding debt, credit card spending, number of transactions and other pertinent consumer and industry credit card information. It appeared in May, 1987. The 1987 Report will not be available until this fall, if at all, Nilson says.

The Nilson Report is published monthly, but has no set schedule for updating its oil industry data. It can be obtained from P.O. Box 49936 (Barrington Station), Los Angeles, Calif. 90049.

34 Oil Company Credit Cards in the U.S.—1986*

(Add 000 in all categories)

Company	Active Accounts	Total Proprietary Cards	Proprietary Sales Volume	Bank Card Sales Volume	T&E Sales Volume	Total Credit Sales
Shell	4,800	15,000	$2,700,000	$324,000	—	$3,024,000
Amoco	4,300	16,700	2,600,000	319,600	$194,000	3,113,600
Chevron	3,900	16,200	2,900,000	244,000	New	3,145,000
Mobil	3,300	14,000	2,000,000	245,000	New	2,245,000
Texaco	3,100	13,500	2,458,400	353,000	175,000	3,986,400
Exxon	3,000	11,200	2,000,000	194,000	—	2,200,000
Unocal	2,200	7,000	2,050,000	220,000	45,000	2,318,000
Sohio	2,000	5,000	1,132,000	100,000	—	1,232,000
Phillips	1,000	4,500	700,000	135,000	—	837,000
Sunoco	1,000	4,200	725,000	81,000	4,000	810,000
Citgo	590	2,600	231,000	96,000	—	327,000
Cumberland	525	1,200	226,000	27,000	—	253,000
Diamond	320	1,100	260,000	46,000	3,000	310,000
Conoco	300	1,700	200,000	50,000	—	250,000
Marathon	250	1,200	180,000	13,000	—	193,000
Fina	170	650	130,000	6,500	New	136,900
Total	170	945	145,000	81,500	—	227,000
Kerr McGee	113	564	57,000	15,000	—	72,600
Ashland	80	165	78,000	42,000	—	126,000
Crown Central	80	175	36,000	34,000	—	72,000
Beacon	65	272	40,000	2,000	—	42,000
Sinclair	50	171	28,200	3,600	—	31,975
Tenneco	44	137	28,000	20,000	—	48,500
Derby	34	242	23,500	8,900	—	32,488
Cenex	26	207	14,300	New	—	14,300
Emro	9	44	24,000	12,000	—	36,000
Kent	6	23	2,600	New	New	2,600
Sing	5	14	3,900	4,000	—	7,960
Canal	3	9	1,400	—	—	1,400
Certified	4	8	2,000	—	—	2,000
Gibble	2	10	2,400	—	—	2,400
Kwik-Fill	2	5	30,000	New	—	30,000
MFA	2	5	1,800	2,500	—	4,300
Tesoro	2	6	1,700	—	—	1,700
Totals (top 20)	**31,198**	**149,299**	**20,808,400**	**2,576,650**	**421,000**	**24,748,500**
Totals (next 14)	**254**	**1,016**	**203,800**	**53,000**	**—**	**329,623**
Grand total Top 34 Companies	**31,452**	**118,752**	**$21,012,200**	**$2,679,600**	**$421,000**	**$24,136,123**

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*This is the most recent report available. The next one may not be available until the fall of this year.

Source: The Nilson Report, May 1987.

C-Stores Continue Gasoline Growth

There is no question that convenience stores are becoming increasingly important in gasoline marketing.

Updated statistics and estimates for 1987 show that at least three C-Stores now rank among the top 15 gasoline marketers in the country, each having from 1% to 2% share of the national gallonage.

These super chains are Cumberland Farms, of Canton, Mass., which operates on the East Coast; Southland Corp., which is headquartered in Dallas, Tex., and is the acknowledged leader of the pack; and Circle K, which has its home base in Phoenix, Ariz., and is the fast growing chain of them all (See related story on Page 11 of this Factbook).

Southland, with a 1986 total of 7,600 stations, is in the process of divesting as many as 1,000 of them. Almost half of the Southland stores sell gasoline. Circle K currently has about 4,000 stores, of which two out of three sell gasoline. Its appetite to expand seems to be insatiable. Some industry people think that Circle K may catch up with or pass Southland a couple of years down the road.

In an industry athrob with change, hard statistics are difficult to come by. Most of the C-Store chains and the oil companies, including many small independents, are busily building new stores, modernizing older ones and dismantling others by the handsful too. It has been that way since the early '70s. At least 40,000 stores have been added to the surging establishment since 1980 alone. Of the national total, 39,200 are believed to be marketing gasoline. That would mean the gasoline end alone has more than doubled since 1980.

Current estimates by industry associations and trade publications put the 1987 total of C-Stores at 70,000-plus, with more than half—56% in round numbers—selling gasoline at their places of business.

Big Market Shares

These stores are credited with vending more than 19.6-billion gal. of gasoline in 1987. That's about 17% of the national total, estimated at 114.6-billion gal. in 1987. That's almost as much as Shell and Chevron, the two biggest gasoline marketers in the country, sold together last year.

The "Dollars Per Day Survey of the Small Food Industry" that John F. Roscoe, a West Coast chain marketer, does every year, estimated that the average C-store with gasoline sold more than 500,000 gal. annually. This would average out to about 40,000 gal./month per station.

Not all of the stores provide information on their retail margins but these were known to range between 7¢ gal. to 12¢ to 15¢ gal., depending on the store and the location. Many of the C-Stores are 24-hour affairs.

A federal government study of franchised operations, also an annual survey, confirms that the convenience store industry is thriving not only in physical numbers but in dollars as well.

The latest study, issued last spring, said franchised stores grew 5% in population in 1987 and 9% in dollars. The average store, the survey said, did a volume of about $787,000 per year.

Dollars Per Day Survey—1986[a]

Company	No. of Gasoline Units	Gal. Sold in 1986 (Add 000)	Avg. Gal. Sold per Day per Unit	Gasoline Margin per Gal.	% of Sales Contributed by Gasoline
Casey's	586	214,040	1,047	11.5¢	N/A
Circle K	2,433	904,300	1,049	N/A	31.5%
Southland	3,594	1,787,800	1,439	9.4¢	23.3
Sunshine Jr.	317	83,900	727	N/A	47.0
Munford	448	400,000	2,423	N/A	N/A
Silcop	200	91,826	1,304	N/A	13.2
Dairy Mart	415	86,000	1,078	8.6¢	14.5
Nat'l Convenience	723	425,700	1,624	7.7¢	14.7
Totals	**8,716**	**3,993,566**	**1,330**	**N/A**	**26.6**

(a) As ranked in 17th Annual Dollars Per Day Survey of publicly owned companies. Survey excludes companies like Cumberland Farms, which are privately owned but are nevertheless major gasoline retailers.

Box Score on C-Store Growth

Year	No. of C-Stores	No. of Gas Units	% of Stores With Pumps	Gal. Pumped Per Unit per year	Total gal. Pumped by C-Stores (Add 000)
1987 (*)	70,000	39,200	56%	500,000	19,600,000
1986	64,000	34,656	54	485,450	16,823,755
1985	60,000	32,064	53	465,740	14,933,487
1984	58,000	31,528	54	447,855	14,119,972
1983	53,000	28,164	53	438,005	12,346,111
1982	50,000	24,555	49	401,865	9,865,663
1981	39,000	18,330	47	379,600	6,958,068
1980	39,000	17,160	44	359,890	6,175,712

(*) Projected by *NPN*.
Source: 17th Annual Dollars Per Day Survey of the Convenience Store Industry by John Roscoe and Associates, published in February 1988.

Government Franchise Projections

	1988	1987	1986	Percent Changes '88-'87	Percent Changes '87-'86
Total number of establishments:	17,211	16,298	15,524	5.6%	5.0%
Company-owned	9,598	9,245	8,974	3.8	3.0
Franchisee-owned	7,613	7,053	6,550	7.9	7.7
Total sales of products and services: ($000)	$13,561,555	$12,325,478	$11,278,895	10.0	9.3
Company-owned	7,857,425	7,283,403	6,732,322	7.9	8.2
Franchisee-owned	5,704,130	5,042,075	4,546,573	13.1	10.9

Distribution by Establishments—1986

Size Groups	Franchising Companies Number	Establishments Number	Establishments %	Sales ($000)	Sales %
Total	**27**	**15,524**	**100.0**	**$11,278,895**	**100.0**
1,001 and Greater	3	11,388	73.4	8,951,369	79.4
501 - 1,000 151 - 500	7	3,546	22.8	1,996,410	17.7
51 - 150	4	353	2.3	205,690	1.8
11 - 50	9	216	1.4	114,956	1.0
0 - 10	4	21	0.1	10,470	0.1

Source: Franchising in the Economy, 1986-88, U.S. Department of Commerce, International Trade Administration.

C-Store Sales, Profits Are Up Again

Despite predictions that the industry is reaching the saturation point, convenience stores continue to enjoy almost spectacular growth in terms of both numbers, gross dollar volume and profits.

Preliminary figures from the *1988 State of the Convenience Store Industry Report* published by the National Assn. of Convenience stores and due for release in mid-June show that the number of C-stores increased to 67,500 in 1987, up 5.5% from 1986. Total industry sales jumped 10.6% over the previous year to $59.6-billion, with gasoline sales accounting for $20.5-billion (up 12.6%) or 34% of all C-store sales.

Industry profits were $1.3-billion before taxes in 1987, according to NACS. Average investment for a new urban store was $682,800.

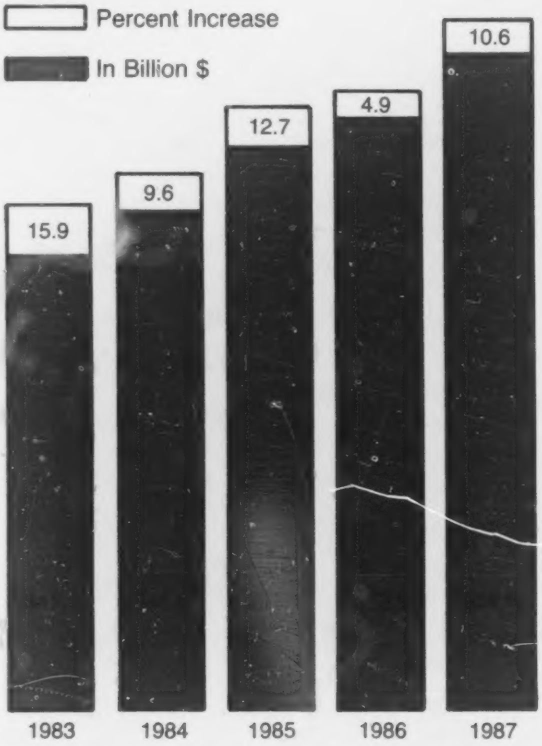
Meanwhile, data from NACS' 1987 survey shows that C-store gasoline margins improved dramatically in 1986, up to 11.2% from 7.3% in 1985 (See table below). Average store pre-tax profit in 1986 was $21,900, down slightly from the previous year.

C-store Gross Margin As a Percent of Sales

Survey Year	Gasoline Margin %	Non-Gasoline Margin %	Average Margin %
1986	11.2	35.5	25.1
1985	7.3	32.2	22.8
1984	6.0	32.0	21.6
1983	5.0	31.5	20.7
1982	4.5	30.1	20.8

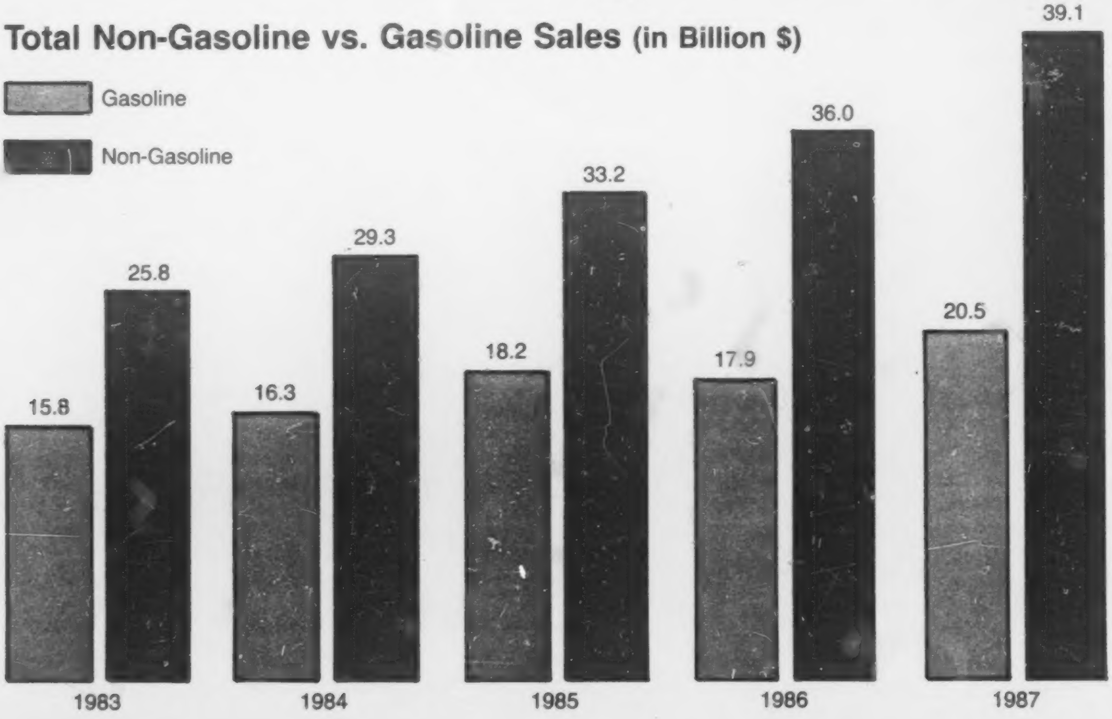
Source: NACS "1987 State of the Convenience Store Industry" survey.

Total Convenience Store Industry Sales



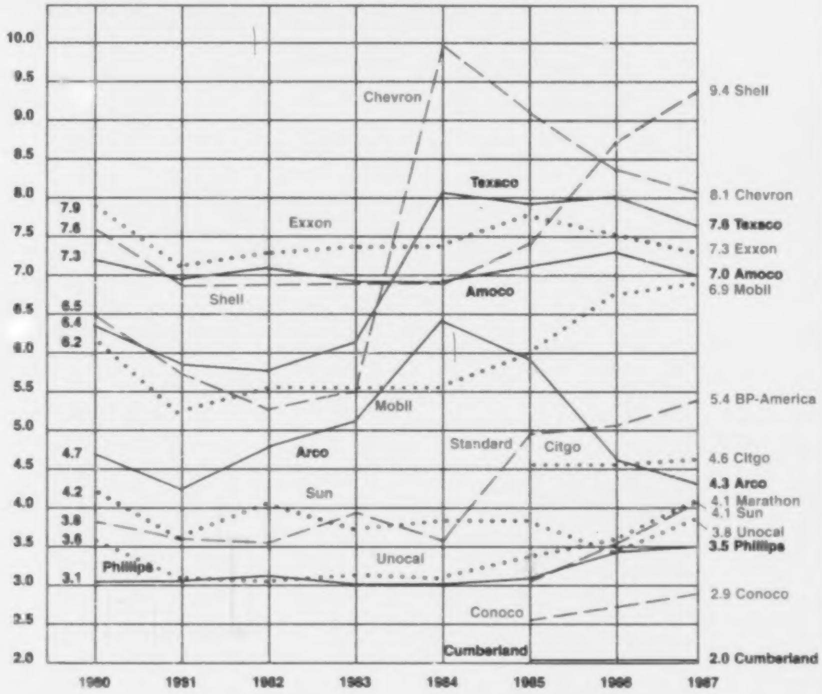
From the National Association of Convenience Stores' *1988 State of the Industry Report.*

Total Non-Gasoline vs. Gasoline Sales (in Billion $)



Trends in Gasoline Market Shares

15 Top Marketers 1980-1987



N.B.: This graph was revised in 1988 to include all marketers with national shares of 2.0% or more. In some instances, pre-1985 data were not available. This revised graph includes Citgo, Conoco and Cumberland Farms for the first time. Note also, Standard Oil was re-named BP-America in 1987.

Shell Retains Gasoline Marketing Leadership

Bolstered by an 8% increase in street sales and an overall increase of 12% in total sales, Shell Oil Co. has not only reaffirmed its right to be known as the nation's No. 1 gasoline marketer, it also set some new benchmarks in the process of winning the traditional "gasoline derby" in 1987.

Shell's gross gasoline volume exceeded 10-billion gal. last year, thus making it only the second oil company in history to get into that rarified atmosphere.

Chevron broke the 10-billion gal. ice in 1984, immediately after its purchase of Gulf Oil Corp. It slipped back into the 9-billion gal./year plus range the following year as it consolidated its acquired properties and began to spin off some marketing assets to comply with court requirements.

At that, however, Shell's 1987 volume was much higher than Chevron's—10.6-billion gal. versus 10.3-billion gal. for the latter. This is an all-time high for gasoline sales by any oil company.

Shell's relative share-of-market was, in round figures, 9.4% in 1987. Chevron's level in 1984 was 9.7%, so it still outranks Shell as the all-time percentage leader (See related graph above and tables elsewhere in this article).

To achieve its 10.6-billion gal. level in 1987, Shell had a 12% gain in gasoline sales. This followed in the wake of a 20% increase in 1986 which propelled Shell into the national leadership for the first time.

Shell is the American subsidiary of the Royal Dutch Shell Group of Companies which has dual headquarters in The Hague and London. BP-America, which ranked seventh in gasoline sales in 1987, is also owned by overseas oil interests. Formerly The Standard Oil Co., it was acquired 100% by BP-London last summer.

Second place in the annual gasoline derby was retained by Chevron for the second consecutive year. In lockstep fashion, just as they ranked in 1986, were Texaco, Exxon, Amoco and Mobil.

Chevron had only an insignificant increase in its 1987 gallonage while Texaco, Exxon and Amoco slipped slightly. Mobil recorded a 7.7% increase in gasoline sales. Among the second-tier companies, Conoco bettered its 1986 position by almost 10%. Unocal was up 6.5% and Phillips, 5.3%.

Important Changes in '87

In the 1987 boxscores of volumes and percentages, there are several items of special significance.

Citgo re-emerged as a privately owned, independent oil company after several years of confusing statistics and ownership changes, first by Occidental Petroleum Co., then by Southland Corp., the big Dallas-based C-store giant.

In mid-1986, Petroleos de Venezuela purchased a 50% interest in Citgo, thus moving the company out into the open as a stand alone independent and no longer a 100% satellite of the 7/Eleven chain. Citgo supplied 7,000-plus outlets in 1987, including Southland's 3,000 or so gasoline units, most of which are branded Citgo.

Sun's volumes and standings were changed in 1986 and 1987 by a restatement of gasoline volumes which reflected trading and purchasing of outside supplies for its own outlets and some third-party sales. This resulted in Sun moving up a notch or two in the boxscore, ahead of Marathon and Unocal. Sun said it intends to continue flavoring its consumption statistics like this in the indefinite future.

Understanding the Differences

It should be borne in mind that the gasoline volumes in this share-of-market update are those reported by the oil company and the others in their annual reports, 10-K reports to the Securities & Exchange Commission and supplemental operating reports that are used internally and sometimes released to outsiders.

The volumes are gross sales, not merely the retail gallons that are purchased by the millions of motorists on highways and byways year in and year out. These gross volumes naturally include wholesale and retail and, frequently, inter-refinery sales. Some companies say their figures are for motor fuel only while others concede that the totals include small amounts of lightend products such as naphthas and avgas.

Routine attempts are made by several organizations to separate out not only the retail volumes but the brand itself. The big problem here is that the organizations lean heavily on the state tax collection reports that sometimes identify the product sales by brand or company. Because there is no consistency in the collection and reporting systems of the various states, the figures can and do vary considerably. In ad[illegible], the Federal Highway Administration says the state data g[illegible]ly include on-highway and off-highway consumption as well [illegible] losses occasioned by evaporation, spills, leakages and so on.

This year's NPN report has been expanded to include all companies that sell 1-billion or more gal./yearly of gasoline, or represent at least a 2% share of the national market. New faces in this year's summaries, in addition to Citgo, are Conoco and Circle K, the second biggest C-store chain in the country. Circle K broke into the 1-billion-plus range in 1987 for the first time. It is a company to be watched because it has been growing in leaps and bounds while the No. 1 chain, Southland, has been retrenching. Southland said it will divest itself of at least 1,000 stores by mid-1988 but it will take time to determine how much impact these sales will have on its gasoline volume.

In between the two of them is Cumberland Farms, which sells more than 2-billion gal./year of gasoline in its own stores and the Gulf-Chevron stations it acquired several years ago when Chevron withdrew from the Northeast.

The C-Store Factor

It is interesting to note that three big C-store chains are among the top 15 gasoline marketers now. These are Cumberland Farms, Southland and Circle K. Which company is the so-called "biggest independent" is something else again. Cumberland Farms, which had the greatest retail volume, about 2.3-billion gal. in 1987, does not own or operate a refinery but it has a stranglehold on one in Newfoundland. Southland, with a little under 2-billion gal. last year, still owns a 50% interest in Citgo. Circle K, in the 1.2-billion gal. category, has no refinery. Just about it, however, is Getty Petroleum, which moves about 1.3-billion gal. and has a good C-store network but no refinery tie-in.

It's all a matter of deciding which is the purest of the pure, some industry sources said.

Gross Gasoline Gallons and Relative Market Shares—1987[a]

(1987 Gross Sales = 113,612,946 gal.) (a)

	Rank	% Share of Market	Gross Gals. (b)	% Chng. vs. 1986
Shell	1	9.351%	10,623,690	11.8%
Chevron	2	8.109	9,213,330	0.6
Texaco	3	7.597	8,630,790	(1.2)
Exxon	4	7.286	8,278,200	(1.6)
Amoco	5	7.030	7,986,930	(0.4)
Mobil	6	6.949	7,894,950	7.7
BP-America*	7	5.415	6,151,929	12.9
Arco**	8	4.561	5,181,540	3.0
Citgo***	9	4.331	4,920,930	(2.7)
Sun****	10	4.063	4,615,863	4.5
Marathon	11	4.061	4,614,330	4.9
Unocal	12	3.753	4,264,410	6.5
Phillips	13	3.454	3,924,480	5.3
Conoco	14	2.888	3,280,620	9.7
Cumberland	15	2.024	2,300,000	NA
Getty	16	1.496	1,700,000	42.2
Circle K	17	1.012	1,149,750	27.1
Total		**85.1**	**96,731,742**	**6.7**

(a) Preliminary data; gross gallonage for 1987 projected by NPN based on FHA and API yearend data; (b) gallonage reported in company annual reports and 10-K's; *Formerly Standard Oil Co., taken over by BP in mid-summer 1987; **Arco's gallonage includes Lyondell Petroleum; ***Citgo's status was changed in 1986 (see explanation in 1986 footnotes); Citgo's gallonage includes 1.8-billion gal. retailed by Southland/7-Eleven Stores which, as a separate entity, would nominally rank below Cumberland andahead of Getty in the boxscore above; ****Sun restated its earnings in 1987 and 1986 (see explanation in 1986 footnotes).

1986 Gross Gallons and Relative Market Shares (revised)[a]

(1986 Gross Sales = 111,933,927,000 gal.)

	Rank	% Share of Market	Gross Gallonage	% Chng. vs. 1985
Shell	1	8.491%	9,504,600	20.4%
Chevron	2	8.183	9,160,020	(3.3)
Texaco	3	7.806	8,738,100	1.8
Exxon	4	7.326	8,416,170	1.9
Amoco	5	7.163	8,017,590	2.6
Mobil	6	6.546	7,327,740	9.9
Standard Oil	7	4.870	5,451,348	1.9
Citgo*	8	4.520	5,058,900	NC
Arco	9	4.492	5,028,210	8.3
Sun**	10	3.944	4,415,040	NC
Marathon	11	3.931	4,399,710	5.5
Unocal	12	3.561	3,985,800	7.0
Phillips	13	3.328	3,755,190	(1.2)
Conoco	14	2.671	2,989,350	3.7
Cumberland	15	2.055	2,300,000	—
Getty	16	1.068	1,195,740	8.3
Circle K	17	0.808	904,300	28.3
Total	**—**	**80.9%**	**90,654,874**	**NC**

(a) Market shares were revised to reflect Federal Highway Administration's corrected consumption total for 1986; (b) gallonage reported in company annual reports and 10-Ks; in addition, several other changes occurred, as follows: *Citgo, formerly a wholly owned subsidiary of Southland became a privately owned stand-alone oil company in 1986 through Southland's 50-50 joint venture with Petroleos de Venezuela; this gallonage includes Southland which had previously been reported separately; **Sun restated its gross gallonage sales in 1986 to reflect marketplace purchases to supply its own and third-party contract needs; NC-Not comparable with 1985 gallonages, i.e., Sun's restatement did not go beyond 1986, hence the older figures are not comparable; the 1987 listing includes more companies than are represented in the 1986 summations.

Share of Market—Top 20 Companies in 1986

Production

	Crude oil and NGL(a)			Natural gas	
	(Add 000 b/d)	% of Mkt.		Millions/CF	% of Mkt.
Exxon	761.0	7.40%	Chevron	718,320	4.48%
Standard Oil	726.6	7.06	Exxon	700,435	4.37
Arco	659.1	6.41	Shell	653,715	4.08
Texaco	590.0	5.73	Amoco	631,815	3.94
Shell	571.0	5.55	Texaco	613,930	3.83
Chevron	546.2	5.31	Mobil	546,770	3.41
Amoco	394.0	3.83	Arco	454,060	2.83
Mobil	342.0	3.32	Tenneco	364,677	2.27
Phillips	316.0	3.07	USX/Marathon	308,042	1.92
USX/Marathon	189.0	1.84	Phillips	299,300	1.87
Sun	171.3	1.66	Unocal	248,930	1.55
Unocal	167.9	1.63	DuPont/Conoco	248,000	1.55
Occidental	148.0	1.44	Occidental	244,185	1.52
DuPont/Conoco	126.0	1.22	Sun	219,000	1.37
Tenneco	104.1	1.01	Burlington Northern	145,100	0.90
City of Long Beach	76.9	0.75	Enron	127,276	0.79
Union Pacific/Champlin	71.2	0.69	Union Pacific/Champlin	122,700	0.77
Burlington Northern	71.0	0.69	Pennzoil	116,760	0.73
Amerada Hess	68.8	0.67	Mesa	112,376	0.70
Enron	50.9	0.49	Consolidated Nat'l. Gas	112,000	0.70

Proved Reserves

	Crude oil and NGL(a)			Natural Gas	
	(Million/bbl.)	% of Mkt.		(Billions/CF)	% of Mkt.
Arco	2,780.0	7.78%	Exxon	17,970	9.38%
Shell	2,632.0	7.51	Amoco	10,270	5.36
Exxon	2,627.0	7.49	Mobil	7,855	4.10
Standard Oil	2,406.2	6.86	Chevron	7,509	3.92
Chevron	1,880.0	5.36	Standard Oil	7,308	3.81
Texaco	1,654.0	4.76	Shell	6,788	3.54
Amoco	1,560.0	4.45	Arco	5,923	3.09
Mobil	1,014.0	2.89	Texaco	5,132	2.68
Unocal	661.0	1.89	Unocal	4,500	2.35
Sun	649.0	1.85	USX/Marathon	3,436	1.79
USX/Marathon	628.5	1.79	Tenneco	3,245	1.69
Phillips	496.0	1.41	Phillips	3,232	1.69
Occidental	484.0	1.38	Burlington Northern	2,887	1.51
DuPont/Conoco	317.0	0.90	Occidental	2,749	1.43
Tenneco	296.0	0.84	Sun	2,377	1.24
Amerada Hess	201.0	0.57	Mesa	1,997	1.04
Union Pacific/Champlin	148.7	0.42	DuPont/Conoco	1,977	1.03
Pennzoil	138.0	0.39	Anadarko	1,704	0.89
Sante Fe	124.4	0.35	Union Pacific/Champlin	1,511	0.79
Goodyear	123.4	0.35	Enron	1,435	0.75

Refining Capacity

	Operable Capacity (000 b/d)	% of Total capacity	Runs (000 b/d)(b)	% of U.S. total	% utilized
Chevron	1,845.0	12.24%	1,335.1	10.42%	72.4%
Exxon	1,143.5	7.59	1,080.0	8.43	94.4
Shell	1,045.8	6.94	975.0	7.61	93.2
Amoco	967.0	6.42	855.0	6.67	88.4
Texaco	886.0	5.88	920.0	7.18	96.3
Mobil	755.0	5.01	643.0	5.02	85.2
Arco	673.0	4.47	664.5	5.19	98.7
Standard Oil	667.6	4.43	622.8	4.86	93.3
USX/Marathon	513.0	3.40	442.2	3.45	86.2
Unocal	490.0	3.25	416.0	3.25	82.9
Sun	443.0	2.94	416.1	3.25	93.9
DuPont/Conoco	393.2	2.61	358.0	2.79	91.0
Ashland	346.5	2.30	321.7	2.51	92.8
Coastal	318.3	2.11	190.0	1.48	59.7
Phillips	305.0	2.02	301.0	2.35	98.7
Southland/Citgo	297.0	1.97	251.0	1.96	84.5
Koch	280.0	1.86	NA	NA	—
Union Pacific/Champlin	218.4	1.45	174.7	1.36	80.0
Kerr-McGee	155.8	1.03	138.0	1.08	88.6
Philbro (Solomon)	154.4	1.02	NA	NA	—

(a) Natural Gas Liquids and Condensate

(b) Runs are not listed in the usual ranking order: they are keyed to operable capacities in Column 1, hence some are not listed in their correct numerical positions.

Source: For all tables on this page, American Petroleum Institute "Market Shares and Individual Company data for U.S. Energy Markets: 1950-1986," published in October 1987.

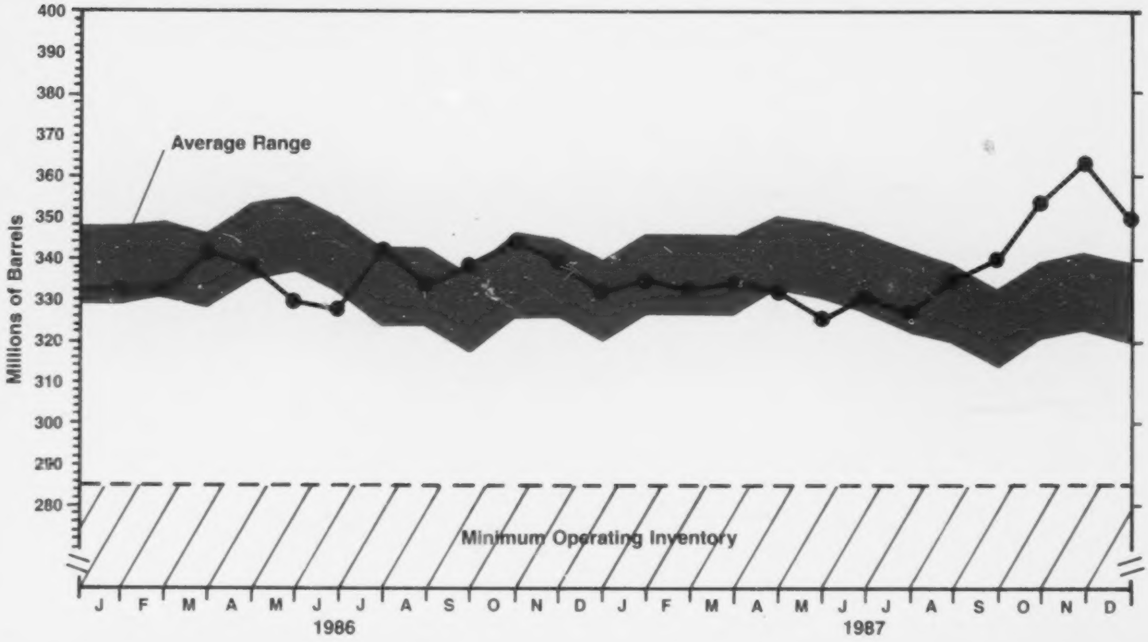
Share of Market —Concentration Ratios

(% of U.S. total)

	1986	1985	1980	1975	1970	1965	1960
Gasoline Sales							
4 Firms	29.4%	29.7	28.5	29.5	30.7	—	—
8 Firms	49.5	50.2	49.5	50.3	54.6	—	—
15 Firms	66.4	67.5	66.3	60.6	74.9	—	—
20 Firms	70.4	71.5	72.1	74.7	80.0	—	—
30 Firms	76.5	71.6	77.9	—	—	—	—
Proved Reserves of Crude Oil and Liquids							
4 Firms	29.7%	29.3	31.1	36.3	—	—	—
8 Firms	47.1	47.6	46.3	55.6	—	—	—
15 Firms	57.2	58.0	59.5	70.4	—	—	—
20 Firms	59.3	60.1	62.7	74.5	—	—	—
30 Firms	61.0	61.8	65.7	—	—	—	—
Production of Crude Oil and Liquids							
4 Firms	26.6%	26.1	25.3	26.1	26.3	23.9	20.8
8 Firms	44.6	43.7	40.8	41.2	41.7	38.5	33.5
15 Firms	56.5	55.3	56.1	57.0	56.9	50.3	44.2
20 Firms	59.8	58.4	60.6	61.2	61.1	55.0	49.1
30 Firms	63.3	62.0	64.8	—	—	—	—
Refining Capacity							
4 Firms	33.2%	34.4	29.0	29.9	32.5	30.4	32.0
8 Firms	53.0	54.4	49.0	53.5	57.5	54.3	55.0
15 Firms	71.6	73.0	67.0	74.1	78.1	75.0	72.5
20 Firms	79.0	80.3	74.5	81.3	84.3	83.0	81.4
30 Firms	87.9	88.8	82.3	—	—	—	—
Refinery Runs							
4 Firms	33.6%	34.3	31.2	32.9	34.2	31.0	33.2
8 Firms	55.4	57.8	53.9	57.7	61.0	55.3	56.8
15 Firms	74.9	78.8	73.6	79.4	84.6	73.3	74.2
20 Firms	81.1	84.6	81.5	86.8	91.1	81.4	83.4

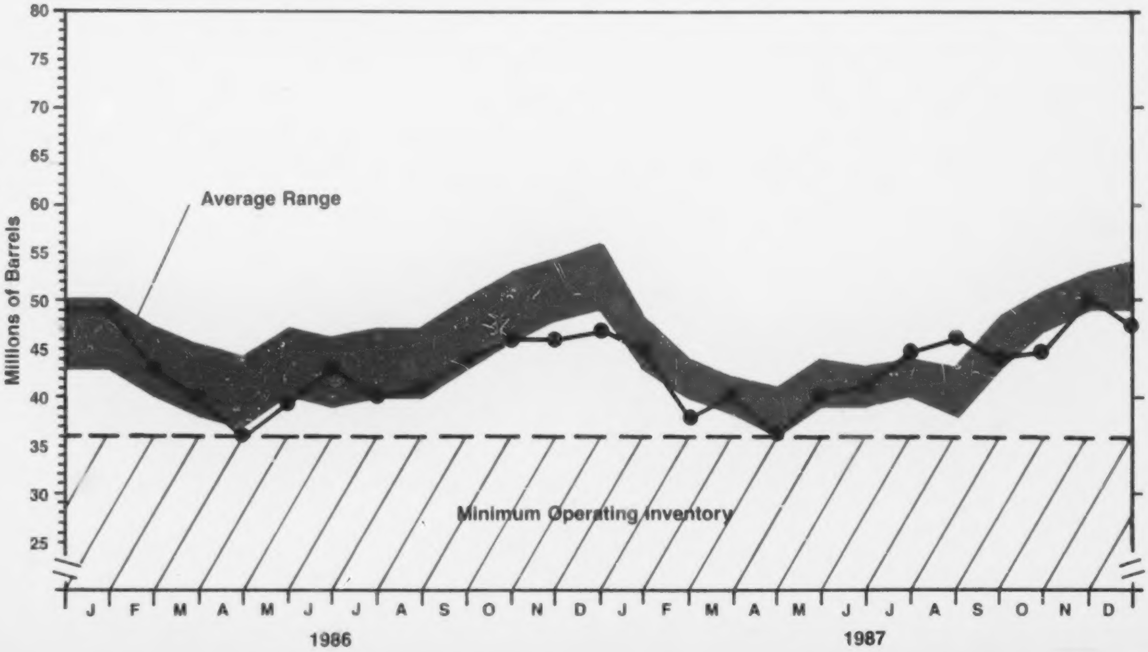
Source: American Petroleum Institute, Market Shares and Individual Company Data for U.S. Energy Markets 1950-1986, published October 1987.

Stocks of Crude Oil, U.S. Total (Millions of bbl.)

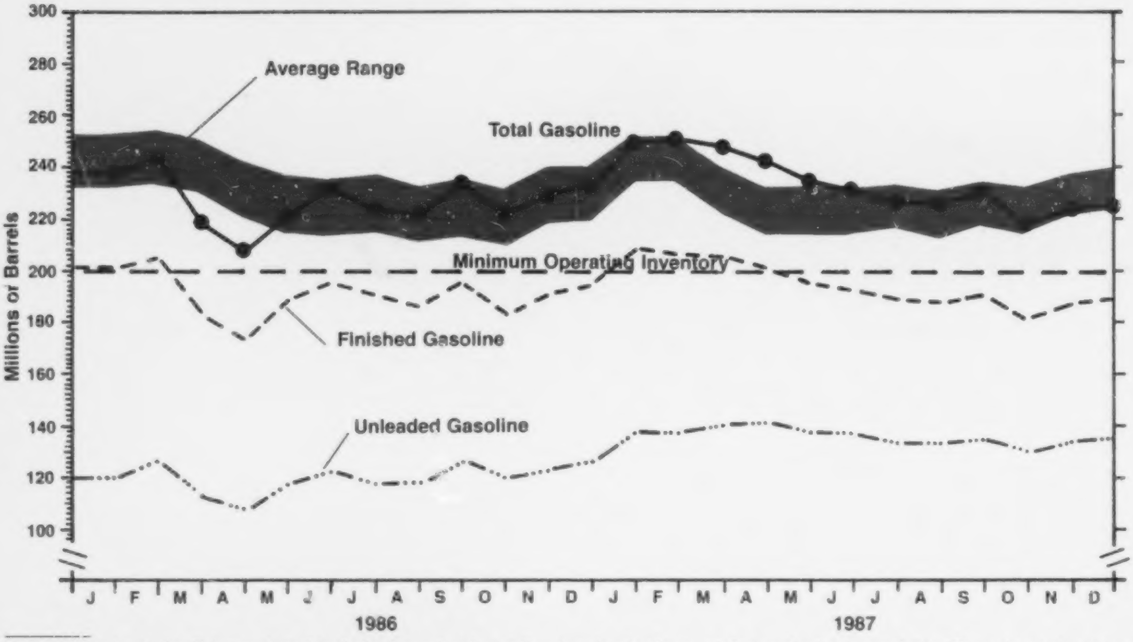


Crude Stocks at Primary Levels include those held at refineries, in pipelines, and in lease tanks, but do not include those held in the Strategic Petroleum Reserve operated by the U.S. Government. The average level and width of average range are based on three years of monthly data. The seasonal pattern is based on seven years of monthly data. National Petroleum Council defines the Minimum Operating Inventory as the minimum level required for routine operation. By its definition, runouts and shortages could occur if inventory levels fall below that level for any extended period of time.
Source: Department of Energy, Weekly Statistical Reports.

Stocks of Residual Fuel Oil, U.S. Total (Millions of bbl.)

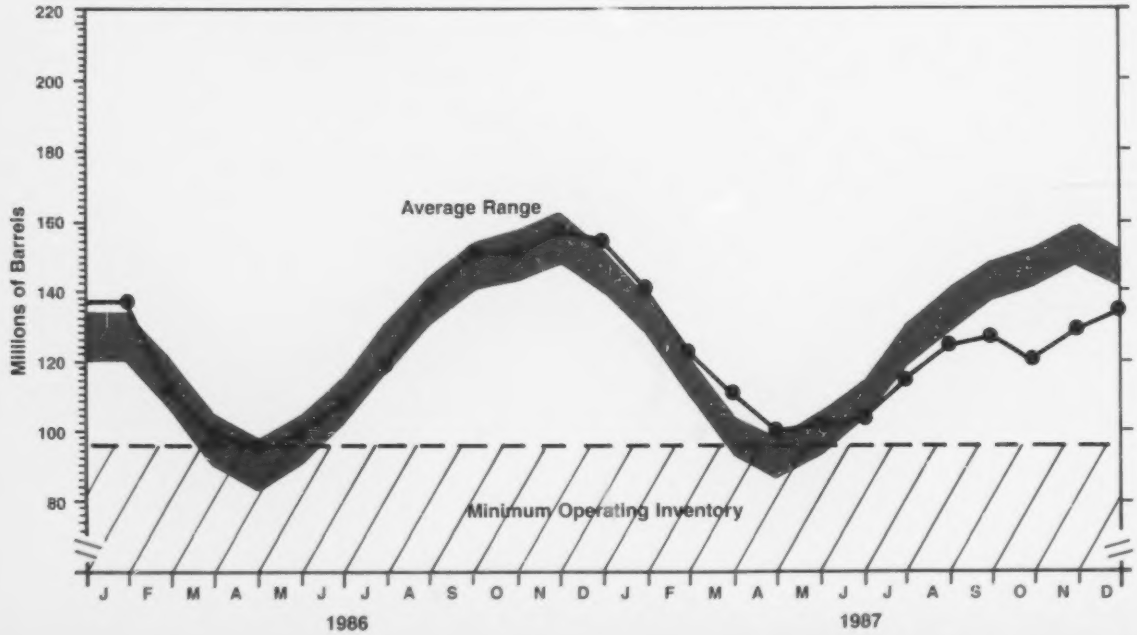


Stocks of Motor Gasoline, U.S. Total (Millions of bbl.)



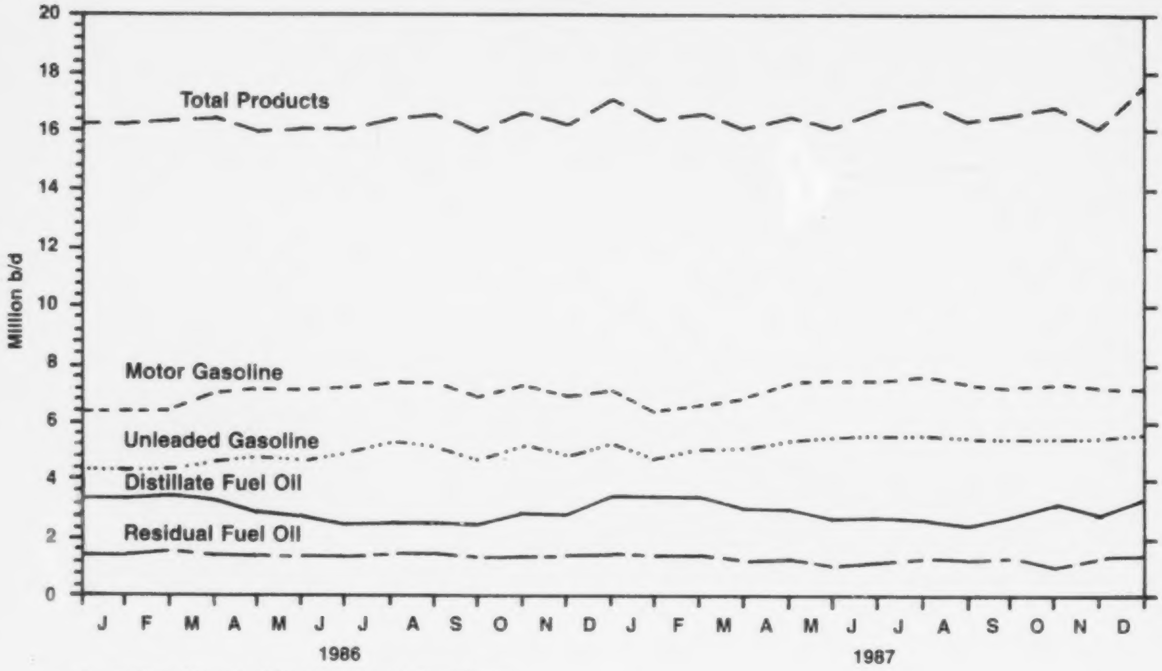
Product stocks at the Primary Level include those held at refineries, in pipelines, and at major bulk terminals. They do not include stocks held in secondary distribution facilities such as jobber tanks, consumer tanks, and/or barges designed for consumer markets. The average level and width of average range are based on three years of monthly data. The seasonal pattern is based on seven years of monthly data. National Petroleum Council defines the Minimum Operating Inventory as the minimum level required for routine operation. By its definition, runouts and shortages could occur if inventory levels fall below that level for any extended period of time.
Source: Energy Information Administration, Weekly Statistical Reports.

Stocks of Distillate Fuel Oil, U.S. Total (Millions of bbl.)



Domestic Product Supply Trends

(Million b/d)



Source: Energy Information Administration, Weekly Status Reports.

Petroleum Products Supplied

(Millions of b/d)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1987												
Finished Motor Gasoline	6.5	6.7	6.9	7.3	7.5	7.5	7.6	7.3	7.2	7.3	7.2	7.2
Leaded	1.7	1.7	1.8	1.9	1.9	1.9	1.8	1.7	1.7	1.7	1.6	1.5
Unleaded	4.8	5.0	5.1	5.4	5.6	5.7	5.7	5.6	5.5	5.6	5.6	5.7
Jet Fuel	1.3	1.4	1.3	1.3	1.3	1.3	1.4	1.4	1.3	1.4	1.3	1.4
Distillate Fuel Oil	3.3	3.3	3.0	3.0	2.7	2.8	2.7	2.5	2.8	3.1	2.9	3.3
Residual Fuel Oil	1.5	1.5	1.2	1.3	1.0	1.2	1.3	1.2	1.3	1.0	1.2	1.4
Other	3.9	3.7	3.5	3.6	3.6	4.0	4.1	3.9	3.9	4.0	3.5	4.1
Total	16.4	16.7	16.0	16.5	16.0	16.8	17.0	16.3	16.5	16.9	16.1	17.5
1986												
Finished Motor Gasoline	6.5	6.5	7.0	7.1	7.1	7.2	7.4	7.4	6.9	7.3	6.9	7.1
Leaded	2.1	2.1	2.3	2.3	2.4	2.3	2.3	2.3	2.1	2.2	2.0	2.0
Unleaded	4.4	4.4	4.7	4.8	4.7	4.9	5.2	5.1	4.8	5.1	4.9	5.2
Jet Fuel	1.3	1.3	1.2	1.3	1.2	1.3	1.3	1.4	1.3	1.3	1.4	1.4
Distillate Fuel Oil	3.3	3.4	3.2	2.9	2.8	2.5	2.6	2.6	2.5	2.9	2.9	3.3
Residual Fuel Oil	1.4	1.5	1.4	1.4	1.3	1.4	1.5	1.5	1.3	1.3	1.4	1.6
Other	3.6	3.5	3.5	3.3	3.5	3.6	3.4	3.7	3.9	3.9	3.7	3.6
Total	16.1	16.2	16.3	15.9	16.0	16.0	16.3	16.6	15.9	16.6	16.2	17.1
1985												
Finished Motor Gasoline	6.3	6.6	6.7	7.0	7.1	7.0	7.0	7.2	6.6	6.9	6.8	6.8
Leaded	2.3	2.5	2.5	2.6	2.6	2.5	2.5	2.5	2.3	2.4	2.3	2.2
Unleaded	4.0	4.1	4.2	4.4	4.4	4.5	4.5	4.8	4.4	4.5	4.5	4.6
Jet Fuel	1.2	1.2	1.2	1.3	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.3
Distillate Fuel Oil	3.5	3.3	3.1	2.8	2.6	2.6	2.4	2.6	2.6	2.9	2.7	3.3
Residual Fuel Oil	1.5	1.4	1.2	1.1	1.2	1.0	1.1	1.2	1.0	1.0	1.3	1.5
Other	3.6	3.7	3.3	3.3	3.5	3.7	3.7	3.8	3.7	3.8	3.4	3.7
Total	16.1	16.1	15.4	15.5	15.5	15.5	15.4	16.1	15.1	15.9	15.5	16.6

Source: Energy Information Administration, Weekly Status Reports.

Stocks of Motor Gasoline

(Add 000,000 bbl.)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1987												
Finished Motor Gasoline	209.3	207.1	205.8	201.4	195.8	192.7	189.1	187.9	191.1	181.9	188.0	192.8
Leaded	70.9	68.9	65.3	59.5	57.5	55.7	54.8	53.8	55.0	51.6	53.5	54.5
Unleaded	138.4	138.2	140.5	142.0	138.4	137.0	134.3	134.1	136.1	130.3	134.5	138.3
Blending Components	40.6	43.5	43.4	41.1	39.3	37.8	37.5	38.5	38.5	36.2	37.1	37.8
Total Gasoline	249.9	250.7	249.2	242.6	235.2	230.6	226.6	226.3	229.6	218.0	225.1	230.6
East Coast	72.7	68.6	69.0	68.9	65.5	66.7	69.5	67.0	64.4	60.0	63.0	64.4
Midwest	71.8	70.6	68.9	66.1	62.9	58.1	56.7	59.7	61.2	57.4	61.9	62.7
Gulf Coast	68.3	73.1	73.4	69.1	67.3	66.9	63.5	63.6	66.4	65.1	64.6	65.6
Rocky Mountain	8.0	8.5	8.4	8.0	7.4	6.1	5.4	5.7	6.1	5.7	6.1	6.6
West Coast	29.1	30.0	29.5	30.5	32.1	32.7	31.4	30.4	31.5	29.9	29.5	31.4
1986												
Finished Motor Gasoline	201.1	205.4	184.0	173.9	187.8	195.8	189.9	187.3	196.0	184.4	190.5	194.2
Leaded	80.8	79.3	70.9	65.8	70.9	74.1	72.7	69.4	69.9	64.8	67.2	68.2
Unleaded	120.2	126.1	113.1	108.1	116.9	121.6	117.2	118.0	126.1	119.7	123.3	126.0
Blending Components	37.3	38.1	34.7	33.6	32.7	34.7	34.1	34.2	38.0	37.9	38.9	38.8
Total Gasoline	238.3	243.5	218.8	207.5	220.5	230.5	224.0	221.6	233.9	222.4	229.4	233.1
East Coast	66.4	71.4	64.6	58.6	66.6	69.7	67.7	64.5	67.8	65.5	63.8	65.3
Midwest	66.7	69.8	64.8	56.7	57.8	61.4	58.5	58.3	61.0	57.9	62.5	63.1
Gulf Coast	65.7	64.2	55.6	59.2	62.2	64.3	61.9	64.4	67.6	62.4	65.2	69.1
Rocky Moutain	7.8	8.0	7.5	6.8	6.1	6.4	6.4	6.0	6.1	5.7	6.5	7.0
West Coast	31.8	30.2	26.2	26.2	27.7	28.8	29.5	28.3	31.4	30.8	31.3	28.6

Stocks of Distillate Fuel Oil

(Add 000,000 bbl.)

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1987												
Total U.S.	141.4	123.5	110.0	100.4	101.8	104.3	114.7	125.2	126.9	121.1	129.0	137.2
East Coast	64.9	48.1	41.5	36.1	34.9	37.1	44.8	50.8	52.4	53.4	53.0	55.3
Midwest	34.4	33.7	30.7	29.0	28.7	28.8	29.8	31.8	31.6	26.7	33.1	36.2
Gulf Coast	27.8	27.8	24.3	22.8	24.1	24.9	27.6	29.7	29.6	28.4	29.4	30.9
Rocky Mountain	3.2	3.3	3.1	2.7	2.7	2.5	2.5	2.6	2.6	2.3	2.6	2.9
West Coast	11.0	10.8	10.4	9.8	11.4	11.0	9.9	10.2	10.7	10.4	10.9	11.9
1986												
Total U.S.	136.5	112.4	98.8	95.9	98.9	107.9	118.9	137.7	152.4	151.6	158.3	155.1
East Coast	55.3	38.0	36.1	30.1	30.7	35.2	46.3	59.4	68.9	73.3	74.1	75.3
Midwest	36.4	33.2	27.3	28.0	28.5	29.4	29.9	31.1	33.9	31.3	34.3	34.7
Gulf Coast	29.5	25.7	22.7	25.6	26.4	28.4	28.4	34.4	35.7	33.4	35.9	30.5
Rocky Mountain	3.2	3.3	2.4	2.6	3.0	3.0	3.1	3.0	2.9	2.7	3.0	3.3
West Coast	12.2	12.2	10.2	9.6	10.3	11.8	11.1	9.8	11.0	10.9	11.0	11.2

Stocks of Residual Fuel Oil

(Add 000,000 bbl.)

	Jan.	Feb.	Mar.	April	May	June	July	Aug	Sept.	Oct.	Nov.	Dec.
1987												
Total U.S.	45.0	38.1	39.6	35.9	40.3	41.3	45.1	45.5	44.2	45.4	49.7	48.8
East Coast	21.5	17.4	16.7	15.6	17.9	19.2	20.2	21.3	21.2	21.2	23.0	23.2
Midwest	2.8	2.7	3.1	3.1	2.8	2.7	2.9	3.0	2.9	2.5	3.2	3.5
Gulf Coast	12.0	10.3	10.9	9.3	11.1	11.6	13.4	11.9	10.7	12.9	13.2	13.7
Rocky Mountain	0.3	0.3	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.4
West Coast	8.4	7.4	8.6	7.5	8.2	7.4	8.2	8.9	9.0	8.4	9.9	8.6
1986												
Total U.S.	48.7	43.0	39.7	35.9	39.4	42.8	40.4	41.3	44.0	45.8	46.3	47.4
East Coast	22.1	18.3	15.8	14.1	15.8	18.4	17.3	18.5	21.8	23.3	21.3	22.9
Midwest	3.7	4.1	3.4	3.3	3.2	3.3	3.1	3.1	3.1	3.0	3.3	3.5
Gulf Coast	12.1	10.2	9.9	10.2	10.0	11.9	11.5	11.7	10.0	11.0	11.7	12.0
Rocky Mountain	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3
West Coast	10.3	10.1	10.3	7.9	10.0	8.9	8.1	7.6	8.8	8.2	9.6	8.7

Source: Energy Information Administration, Weekly Statistical Reports.

Refinery and Bulk Terminal Stocks By States and PAD Regions—1987

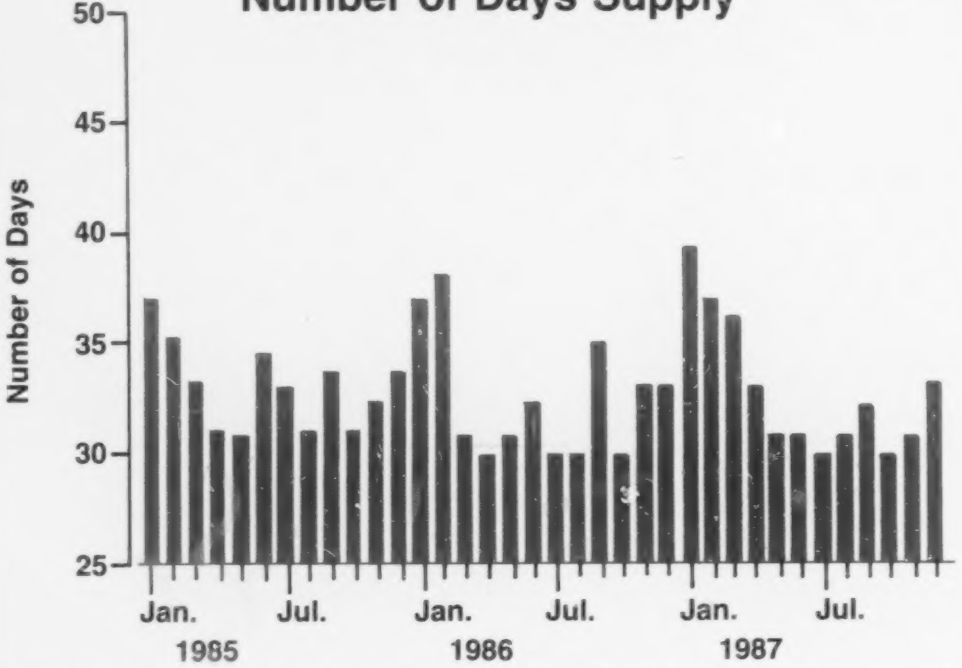
(Add 000 bbl.)

State	Leaded Gasoline	Unleaded Gasoline	Kerosine	Distillate	Residual
PAD District 1					
Connecticut	448	1,331	172	1,995	334
Delaware, D.C., Maryland	329	1,944	232	2,555	1,516
Florida	1,216	5,227	258	1,853	1,115
Georgia	813	1,872	98	1,202	263
Maine, New Hampshire, Vermont	346	917	199	2,232	445
Massachusetts	340	1,111	96	3,367	2,028
New Jersey	1,466	7,683	178	13,611	9,311
New York	1,251	3,354	405	6,039	4,684
North Carolina	997	1,684	412	1,574	404
Pennsylvania	1,722	5,037	694	5,968	1,771
Rhode Island	120	551	w	1,269	w
South Carolina	564	1,240	195	983	w
Virginia	694	2,350	196	2,834	772
West Virginia	108	126	w	117	w
TOTAL	**10,414**	**34,427**	**3,167**	**45,599**	**23,105**
PAD District 2					
Illinois	2,533	5,101	315	4,420	1,081
Indiana	1,481	3,193	409	3,487	398
Iowa	699	1,083	w	1,277	w
Kansas-Nebraska	1,065	1,642	17	2,761	64
Kentucky	754	837	95	1,232	w
Michigan	1,104	2,690	229	2,507	139
Minnesota	816	1,307	w	1,951	273
Missouri	455	807	w	818	w
North & South Dakota	350	535	28	866	w
Ohio	1,452	3,248	903	2,621	259
Oklahoma	938	1,559	w	2,075	210
Tennessee	774	1,295	88	1,032	246
Wisconsin	560	1,504	w	1,555	64
TOTAL	**12,981**	**24,801**	**2,460**	**26,602**	**3,038**
PAD District 3					
Alabama	541	928	151	900	657
Arkansas	201	261	w	250	w
Louisiana	1,339	4,301	511	4,813	4,512
Mississippi	731	2,150	13	2,154	w
New Mexico	169	214	w	299	17
Texas	5,574	14,521	869	13,232	6,937
TOTAL	**8,555**	**22,375**	**1,562**	**21,648**	**12,492**
PAD District 4					
Colorado	352	672	w	469	w
Idaho	214	150	0	188	0
Montana	462	591	w	770	80
Utah	261	274	w	434	95
Wyoming	331	547	w	652	w
TOTAL	**1,620**	**2,234**	**92**	**2,513**	**387**
PAD District 5					
Alaska	421	464	w	1,118	w
Arizona	298	406	w	256	0
California	3,645	8,524	134	5,415	5,895
Hawaii	101	406	0	453	w
Nevada	133	220	w	137	w
Oregon	813	794	w	1,101	193
Washington	1,631	1,810	w	1,629	952
TOTAL	**7,042**	**12,624**	**240**	**10,109**	**8,117**
U.S. Total	**40,612**	**96,461**	**7,521**	**106,471**	**47,139**

W = Withheld to avoid disclosure of individual company data.

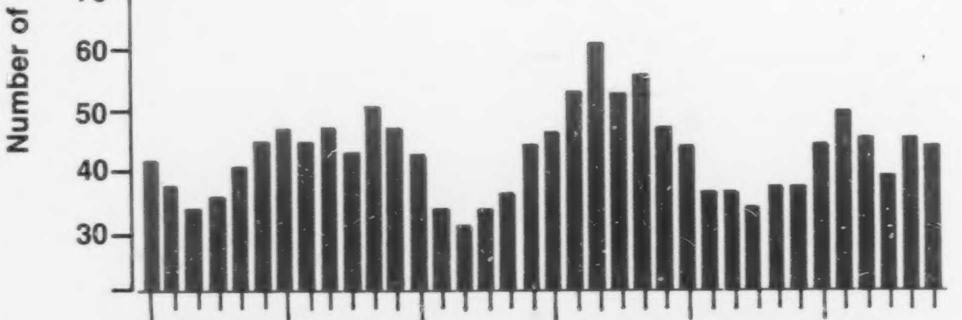
Source: Energy Information Administration, Petroleum Supply Monthly, December 1987, published March 1988.

Gasoline Inventories Number of Days Supply



Sources: Dept. of Energy, American Petroleum Inst. Historical Range based on highest and lowest value between 1973 and 1980.

Distillate Inventories Number of Days Supply



Sources: Dept. of Energy, American Petroleum Inst. Historical Range based on highest and lowest value between 1973 and 1980.

U.S. Crude Oil Production — 1986-1977

(Thousands of b/d)

	1986	1985	1984	1983	1982	1981	1980	1979	1978	1977
PAD District 1										
Florida	25.7	31.4	39.6	53.4	70.2	95.3	117.2	129.2	130.2	127.8
New York	2.3	2.9	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Pennsylvania	10.4	13.3	11.7	11.7	11.7	10.2	7.2	7.9	7.9	7.4
Virginia	**	**	**	0.2	0.1	**	**	**	**	**
West Virginia	8.6	9.7	9.7	9.9	8.9	9.5	6.4	6.6	6.5	6.9
Total	**47.0**	**57.3**	**63.3**	**77.5**	**93.2**	**117.3**	**133.1**	**146.0**	**146.9**	**144.4**
PAD District 2										
Illinois	74.6	82.9	79.1	80.0	75.9	66.0	62.0	59.7	64.0	70.2
Indiana	13.0	14.2	15.1	14.6	15.2	12.9	13.6	12.9	12.8	14.6
Kansas	183.7	206.6	207.5	196.1	193.2	180.3	164.3	156.2	155.0	157.5
Kentucky	17.7	21.3	21.3	21.6	20.2	17.9	16.2	15.1	15.7	18.0
Michigan	70.4	74.8	83.7	86.9	86.2	89.5	97.8	95.5	95.0	90.3
Nebraska	19.4	19.0	17.7	17.5	18.8	18.3	17.0	16.6	16.1	16.4
North Dakota	125.0	139.3	144.3	138.9	129.5	124.4	110.2	84.7	68.0	63.8
Ohio	36.8	41.1	41.8	41.0	39.9	37.1	35.3	32.8	30.6	28.4
Oklahoma	386.6	445.9	461.3	434.5	434.6	422.1	410.2	393.6	412.2	428.4
South Dakota	4.3	4.4	3.7	3.2	3.2	2.7	2.1	2.3	2.4	1.7
Other (a)	2.1	2.9	3.3	3.6	3.7	3.2	2.4	1.9	1.8	2.4
Total	**933.6**	**1,052.4**	**1,078.8**	**1,037.9**	**1,020.4**	**974.4**	**931.1**	**871.3**	**873.6**	**891.7**
PAD District 3										
Alabama	57.9	59.1	54.3	51.4	54.8	56.6	60.5	52.5	54.3	50.0
Arkansas	43.2	52.2	51.3	51.6	51.6	50.3	49.8	51.7	55.7	55.3
Louisiana	1,403.0	1,392.4	1,411.7	1,313.9	1,255.9	1,231.0	1,281.8	1,341.6	1,459.6	1,542.2
Mississippi	82.2	83.9	89.8	86.2	90.5	93.7	98.2	102.3	115.1	117.9
New Mexico	207.4	215.2	217.4	205.9	194.6	196.1	205.1	218.2	228.4	239.0
Texas	2,300.3	2,435.2	2,478.8	2,473.0	2,535.1	2,589.4	2,670.6	2,789.3	2,942.6	3,117.5
Total	**4,094.0**	**4,238.0**	**4,303.4**	**4,182.0**	**4,182.5**	**4,217.1**	**4,366.0**	**4,555.6**	**4,855.7**	**5,121.9**
PAD District 4										
Colorado	80.3	82.9	79.0	79.6	83.7	83.0	81.4	88.5	100.8	108.1
Montana	74.2	81.6	81.5	80.1	84.7	84.4	80.0	82.1	83.5	89.5
Utah	107.3	111.8	95.0	80.9	61.5	70.9	68.2	76.0	85.9	90.7
Wyoming	332.4	352.1	340.5	324.1	324.1	357.7	345.2	361.3	376.4	373.9
Total	**594.2**	**628.4**	**596.0**	**564.7**	**554.0**	**596.0**	**574.8**	**607.9**	**646.6**	**662.2**
PAD District 5										
Alaska	1,866.6	1,825.3	1,727.1	1,713.8	1,695.6	1,609.1	1,616.6	1,400.9	1,229.1	463.6
Arizona	0.4	0.5	0.6	0.6	0.9	1.0	1.1	1.3	1.1	1.2
California	1,114.2	1,161.3	1,128.8	1,108.7	1,100.2	1,054.7	975.2	965.1	951.2	957.8
Nevada	8.0	8.3	5.2	2.2	1.7	1.9	2.4	3.4	3.2	1.8
Total	**1,989.2**	**2,995.4**	**2,861.7**	**2,825.3**	**2,798.4**	**2,666.7**	**2,595.3**	**2,370.7**	**2,184.6**	**1,424.4**
Total U.S.	**8,680.1**	**8,972**	**8,903**	**8,688**	**8,648**	**8,571**	**8,600**	**8,551**	**8,707**	**8,244**

**Less than 100 barrels per day.

(a) Missouri and Tennessee.

Source: Independent Petroleum Assn. of America and American Petroleum Institute Data Book.

Domestic Supply Trend (Add 000,000 bbl.)

Year	All products	Gasoline	Kerosine(a)	Distillate	Residual	LPG	Lubes	Other
1987(b)	6,024	2,616	447	1,077	454	580	59	791
1986	5,943	2,576	439	1,064	518	555	52	739
1985	5,740	2,493	404	1,047	439	584	53	720
1984	5,756	2,449	391	1,041	501	576	57	741
1983	5,585	2,417	353	982	519	551	53	710
1982	5,568	2,386	339	977	618	443	51	754
1981	5,861	2,404	342	1,032	762	407	56	858
1980	6,932	2,536	397	1,389	1,033	414	58	1,105
1978	6,879	2,705	377	1,253	1,103	358	63	1,020
1976	6,391	2,567	351	1,147	1,025	381	56	864
1975	5,958	2,436	347	1,041	899	362	50	823
1970	5,364	2,131	358	927	804	363	50	731
1965	4,202	1,720	220	776	587	307	47	545
1960	3,610	1,512	132	685	559	227	43	427

(a) Kerosine includes jet fuel; (b) Preliminary.
Source: Petroleum Supply Monthly, Energy Information Administration, 1987.

U.S. Estimated Petroleum Balance (Add 000 b/d)

	Full year			4th Quarter			3rd Quarter			2nd Quarter		
Petroleum Products Supplied From Primary Storage (a)	1987	1986	% Chng.	1987	1986	% Chng.	1987	1986	% Chng.	1987	1986	% Chng.
Products Supplied:												
Motor gasoline, total	7,174	7,034	2.0%	7,188	7,093	1.3%	7,418	7,429	2.3	7,188	7,093	1.3
Finished leaded gasoline	1,732	2,180	(20.6)	1,569	2,026	(22.6)	1,721	2,202	(21.8)	1,569	2,026	(22.6)
Finished unleaded gasoline	5,442	4,854	12.1	5,619	5,067	10.9	5,697	5,047	12.9	5,619	5,067	10.9
Naphtha-jet	206	202	2.0	205	208	(1.4)	229	208	10.1	205	208	(1.4)
Kerosine-jet	1,152	1,105	4.3	1,210	1,157	4.6	1,160	1,125	3.1	1,210	1,157	4.6
Distillate fuel oil	2,957	2,914	1.5	3,118	3,041	2.5	2,725	2,585	5.4	3,118	3,041	2.5
Residual fuel oil	1,253	1,418	(11.6)	1,219	1,430	(14.8)	1,244	1,431	(13.1)	1,219	1,430	(14.8)
All other oils	4,090	3,921	4.3	4,240	4,063	4.4	4,154	4,027	3.2	4,240	4,063	4.4
Reclassified	-264	-313	(15.7)	-326	-336	(9.8)	-222	-343	(35.3)	-303	-336	(9.8)
Total domestic products supplied	16,568	16,281	1.8	16,877	16,656	1.3	16,708	16,282	2.6	16,887	16,656	1.3
Exports	743	785	(5.4)	694	824	(15.8)	669	756	(11.5)	694	824	(15.8)
Total Products Supplied	17,311	17,066	1.4	17,571	17,480	0.5	17,377	17,038	2.0	17,571	17,480	0.5
Supply:												
Domestic production												
Crude oil	8.288	8,680	(4.5)	8,275	8,394	(1.4)	8,154	8,455	(3.6)	8,275	8,394	(1.4)
Natural gas liquids	1,600	1,551	3.2	1,614	1,539	4.9	1,591	1,474	7.9	1,614	1,539	4.9
Other supply	884	811	9.0	716	684	4.7	881	860	2.4	716	684	4.7
Total domestic supply	10,772	11,042	(2.4)	10,605	10,617	(0.1)	10,626	10,789	(1.5)	10,605	10,617	(0.1)
Imports:												
Crude oil, total (b)	4,600	4,130	11.4	4,932	4,437	11.2	5,172	4,820	7.3	4,932	4,437	11.2
Canadian	605	570	6.1	591	602	(1.8)	678	568	19.4	591	602	(1.8)
Other	3,995	3,560	12.2	4,341	3,835	13.2	4,494	4,252	5.7	4,341	3,835	13.2
Products, total	1,905	2,045	(6.8)	1,975	2,092	(5.6)	2,065	2,196	(6.0)	1,975	2,092	(5.6)
Residual Fuel oil	542	669	(19.0)	485	709	(31.6)	565	703	(19.6)	485	709	(31.6)
Other	1,363	1,376	(0.9)	1,490	1,383	7.7	1,500	1,493	0.5	1,490	1,383	7.7
Total imports	6,505	6,175	5.3	6,907	6,529	5.8	7,237	7,016	3.1	6,907	6,529	5.8
Total supply	17,277	17,217	0.3	17,512	17,416	2.1	17,863	17,805	0.3	17,512	17,146	2.1

(a) 1987 data are preliminary: (b) Does not include SPR imports or reserves.
Source: American Petroleum Institute, Monthly Statistical Reports, 1987.

U.S. Refinery Operations (Add 000 b/d)

	Full Year			4th Quarter			3rd Quarter			2nd Quarter		
U.S. Refinery Operations (a)	1987	1986	% Chng.	1987	1986	% Chng.	1987	1986	% Chng.	1987	1986	% Chng.
Input to crude distillation units	12,947	12,826	0.9	13,038	12,864	1.4	13,471	13,197	2.1	12,865	13,090	(1.7)
Operable capacity	15,670	15,459	1.4	15,684	15,438	1.6	15,696	15,447	1.6	15,635	15,474	1.0
Refinery utilization (%)	82.6	83.0	(0.5)	83.1	83.3	(0.2)	85.8	85.4	0.5	82.3	84.6	(2.7)
Crude oil runs	12.844	12,716	1.0	12,925	12,747	1.4	13,346	13,100	1.9	12,737	13,020	(2.2)

(a) Preliminary for 1987.
Source: American Petroleum Institute, Monthly Statistical Reports, 1987.

Crude Oil and Product Inventories (Add 000,000 bbl.)

	4th Quarter			3rd Quarter			2nd Quarter			1st Quarter		
Stocks	1987	1986	% Chng.	1987	1986	% Chng.	1987	1986	% Chng.	1987	1986	% Chng.
Crude oil (a)	352.2	331.2	6.3	334.3	337.8	(1.0)	324.6	326.7	(0.6)	335.3	340.9	(1.6)
Unfinished oils	91.9	94.0	(2.2)	103.3	95.1	8.6	104.2	108.4	(3.9)	106.6	102.9	3.6
Total motor gasoline(b)	227.5	233.1	(2.4)	228.8	233.9	(2.2)	230.9	230.5	0.2	247.3	219.9	12.5
Finished leaded gasoline	54.4	68.2	(20.2)	54.7	69.9	(21.7)	56.6	74.1	(23.6)	65.1	71.0	(8.3)
Finished unleaded gasoline	135.5	126.0	7.5	134.8	126.1	6.9	135.7	121.6	11.6	139.3	114.0	22.2
Naphtha-jet	7.2	7.1	1.4	6.5	6.7	(3.0)	7.1	6.6	7.6	7.2	5.8	24.1
Kerosine-jet	43.9	42.7	2.8	43.2	42.2	2.4	38.0	39.7	(4.3)	41.7	41.6	0.2
Distillate fuel oil	136.7	155.1	(11.9)	128.6	152.4	(15.6)	103.7	107.9	(3.9)	106.8	99.3	7.6
Residual fuel oil	46.1	47.4	(2.7)	45.1	44.0	2.5	39.1	42.8	(8.6)	38.2	38.8	1.5
All other oils	162.9	170.3	(4.3)	178.7	199.7	(10.4)	167.0	178.5	(6.4)	165.6	145.2	14.0
Total all oils	**1,068.4**	**1,080.9**	**(1.2)**	**1,068.5**	**1,111.6**	**(3.9)**	**1,014.6**	**1,041.1**	**(2.5)**	**1,048.7**	**994.4**	**5.5**

(a) Does not include Strategic Petroleum Reserve: (b) Total includes leaded and unleaded and blending components.

Petroleum Product Consumption — 1986

(Add 000 bbl.)

	Motor Gasoline	Aviation Fuels	Middle Distillates (a)	Residual Fuel Oil	Asphalt	Propane	All Other (b)	Total Products
Alabama	43,423	2,974	18,023	2,099	3,739	2,803	9,551	82,612
Alaska	6,391	14,198	8,339	2,738	400	442	4,249	36,757
Arizona	38,437	4,282	8,894	1,089	2,714	943	7,367	63,726
Arkansas	26,645	589	11,456	482	1,053	3,004	5,651	48,880
California	307,521	59,832	81,582	56,330	16,487	11,804	69,746	603,302
Colorado	40,415	7,488	10,589	714	3,315	2,866	8,547	73,934
Connecticut	29,414	1,164	13,690	23,906	2,278	1,210	9,368	81,030
Delaware	9,177	115	7,172	1,115	653	109	2,398	20,739
Dist. of Columbia	3,482	337	3,245	844	22	60	1,044	9,034
Florida	129,989	19,101	30,689	38,299	8,837	7,194	30,603	264,712
Georgia	75,062	15,451	22,002	3,321	6,049	4,921	16,576	143,382
Hawaii	8,125	7,585	2,918	14,269	292	345	4,384	37,918
Idaho	10,677	412	5,052	2,190	583	475	2,535	21,924
Illinois	93,336	1,568	29,489	2,020	6,633	6,284	18,213	157,543
Indiana	59,374	17,430	29,037	2,191	6,503	4,700	15,586	134,821
Iowa	34,432	589	16,799	2,292	2,185	6,358	8,190	70,845
Kansas	55,623	6,351	30,452	1,595	2,849	33,057	16,984	146,911
Kentucky	41,993	3,121	19,022	519	2,451	3,271	9,200	79,577
Louisiana	62,470	16,393	44,829	29,956	1,921	11,385	21,824	188,778
Maine	12,485	533	7,438	7,490	787	574	3,831	33,138
Maryland	44,522	2,540	18,362	7,802	5,600	1,354	10,481	90,661
Massachusetts	54,027	6,489	40,468	35,188	1,195	1,536	18,157	157,060
Michigan	99,100	5,441	25,624	1,834	3,629	9,304	18,946	163,878
Minnesota	53,481	7,355	22,247	1,498	5,878	6,090	12,621	109,170
Mississippi	34,752	3,600	19,921	276	2,042	9,039	9,102	78,732
Missouri	60,041	6,248	17,948	376	4,690	4,213	12,260	106,046
Montana	11,301	1,041	6,189	56	2,133	1,388	2,890	24,998
Nebraska	17,525	556	11,919	1,061	1,023	2,641	4,539	39,264
Nevada	14,164	3,588	5,892	475	608	693	3,323	28,743
New Hampshire	6,235	132	6,875	2,910	593	953	2,313	20,011
New Jersey	117,614	37,025	81,346	33,345	5,968	2,808	36,354	314,460
New Mexico	18,274	1,005	8,358	544	1,733	5,032	4,568	39,514
New York	118,974	2,449	64,259	56,077	6,905	5,649	33,244	287,557
North Carolina	74,770	4,843	28,705	6,446	4,861	5,729	16,386	141,740
North Dakota	9,152	256	7,893	945	941	2,923	2,890	25,000
Ohio	110,739	8,964	39,899	2,322	7,873	4,238	22,750	196,785
Oklahoma	48,808	3,558	18,269	1,087	3,519	5,959	10,614	91,814
Oregon	30,377	2,344	15,784	2,917	2,386	1,350	7,210	62,368
Pennsylvania	113,535	9,091	57,521	29,135	6,388	5,043	28,852	249,565
Rhode Island	10,799	461	8,132	3,264	1,586	342	3,214	27,798
South Carolina	36,277	816	11,914	2,577	2,218	2,771	7,395	63,968
South Dakota	8,881	264	5,537	652	874	1,383	2,299	19,890
Tennessee	64,586	5,468	27,092	725	4,459	2,434	13,695	118,459
Texas	317,041	77,699	142,024	37,371	14,634	67,144	85,741	741,654
Utah	18,735	3,316	7,066	632	1,389	1,088	4,213	36,439
Vermont	2,481	258	2,582	358	449	578	877	7,583
Virginia	65,933	9,806	30,139	8,299	4,766	2,806	5,915	137,664
Washington	50,284	14,336	28,613	10,956	2,578	2,081	14,229	123,077
West Virginia	14,327	186	6,288	1,111	606	350	2,989	25,857
Wisconsin	48,111	1,334	21,215	211	2,204	5,293	10,244	88,612
Wyoming	7,022	138	7,594	353	1,721	4,726	2,818	24,372
TOTAL U.S.	**2,770,338**	**400,122**	**1,196,390**	**444,256**	**175,472**	**268,980**	**687,007**	**5,942,565**

(a) Middle distillates include kerosine. (b) All other includes naphtha, lubricants, waxes, petroleum coke and still gas.
Source: Independent Petroleum Assn. of America, "The Oil and Gas Producing Industry in Your State," 1987.

IPAA's New Outlook: Demand Up, But Domestic Output Still Soft

(Add 000 b/d)

DEMAND	1988 Forecast 1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1988 Average	1987-88 % Chg.
Domestic Products			(Add 000 b/d)			
Motor Gasoline	7,003	7,476	7,455	7,266	7,300	1.6%
Aviation Fuels	1,501	1,385	1,437	1,453	1,444	4.9%
Middle Distillates	3,635	2,905	2,767	3,266	3,143	2.9%
Residual Fuel Oil	1,508	1,165	1,163	1,208	1,261	0.6%
Other Products	3,757	3,625	3,898	3,782	3,765	2.1%
Domestic Demand	17,404	16,556	16,720	16,975	16,913	2.2%
Total Exports	875	739	717	771	775	0.3%
TOTAL DEMAND	**18,279**	**17,295**	**17,437**	**17,746**	**17,688**	**2.1%**

SUPPLY						
Domestic Production						
Crude Oil	8,312	8,185	8,118	8,086	8,175	−1.6%
Natural Gas Liquids	1,596	1,596	1,606	1,634	1,608	0.3%
Total Production	**9,908**	**9,781**	**9,724**	**9,720**	**9,783**	**−1.3%**
Imports						
Motor Gasoline	383	431	450	405	417	−2.3%
Aviation Fuels	67	60	62	59	62	77.1%
Middle Distillates	320	255	273	275	281	8.9%
Residual Fuel Oil	691	466	504	547	552	−0.2%
Other Products	664	668	566	794	673	7.2%
Total Products	2,125	1,880	1,855	2,080	1,985	4.4%
Crude Oil Imports	4,618	4,793	5,270	4,983	4,917	7.7%
Total Imports	6,743	6,673	7,125	7,063	6,902	6.7%
Other Supply	906	1,027	913	981	956	5.1%
TOTAL SUPPLY	**17,557**	**17,481**	**17,762**	**17,764**	**17,641**	**2.0%**
Refinery Inputs	12,908	13,263	13,345	13,166	13,170	2.4%

CLOSING STOCKS (millions of bbl.)						
Motor Gasoline	230.0	225.4	223.5	227.0	227.0	0.3%
Aviation Fuels	48.0	47.1	48.6	48.7	48.7	−7.2%
Middle Distillates	98.5	106.2	132.6	141.0	141.0	−1.3%
Residual Fuel Oil	42.0	41.7	43.6	45.7	45.7	−3.4%
Other Products	238.5	265.2	268.0	255.3	255.3	2.6%
Total Products	657.0	685.6	716.3	717.7	717.7	0.0%
Crude Oil Stocks	344.5	332.8	332.0	332.3	332.3	−4.9%
TOTAL STOCKS	**1,001.5**	**1,018.4**	**1,048.3**	**1,050.0**	**1,050.0**	**−1.6%**

Source: IPAA Supply and Demand Committee, May, 1983.

The pattern of U.S. petroleum supply and demand in the past two years or so has become a familiar one, based on the new industry outlook released in May by the Independent Petroleum Assn. of America. That pattern: declining domestic production, rising demand and increased reliance on imports. The updated 1988 forecast, however, is not all that bad.

IPAA's forecast sees domestic oil demand rising 2.2% to 16.9-million b/d, the highest level in eight years. Crude oil production, while expected to decline again for the third year in a row to 8.18-million b/d should be down only 1.2% (compared to 4.3% last year) because of a modest increase in drilling activity and more output from Alaska's North Slope. Imports are expected to increase to 6.9-million b/d this year, up 6.7% over last year. Import dependence should reach 39% of total U.S. supply, up 2% from 1987.

Supply-Demand Forecast To 2000

Slow growth in consumption and slow increases in crude and product prices are anticipated by Chevron Corp. in its annual forecast on what's ahead for the U.S. petroleum industry in the last decade of this century.

In a nutshell, this is what Chevron's economists foresee in their 1987 World Energy Outlook, published last winter and based more heavily on 1986 than on 1987 perspectives:

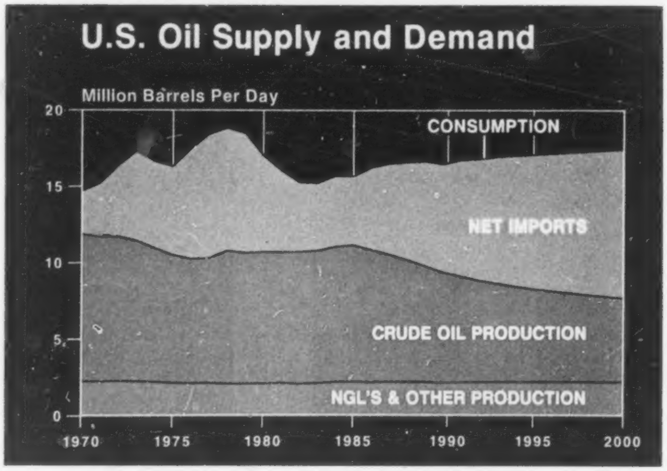
- 0.9% average annual growth in domestic energy consumption—about one-third the Gross National Product (GNP) rate.
- 0.5% average annual growth in domestic oil consumption (as distinguished from the total energy consumption above which includes coal, natural gas and other fuel and power sources). Oil's share of total energy consumed is expected to decline from 44% to about 40% by the year 2000.
- Domestic production of oil is expected to decline about 2.4% per year while U.S. imports of crude oil and products exceed 55% by the end of the century. (This would be an increase of about 10% to 15% over 1987 levels).
- Globally, crude oil prices are expected to fluctuate between $15 and $30 bbl., with real price increases literally unavoidable in the mid-to-late '90s.
- Refining Capacity: More than enough but there may be a need for additional facilities to convert fuel oil to light products by the mid-1990s. Also, if the federal government mandates reductions in gasoline vapor pressure and the sulfur content of diesel fuel, as it kept talking about in early 1988, substantial new investments may be needed to cope with the new situations.

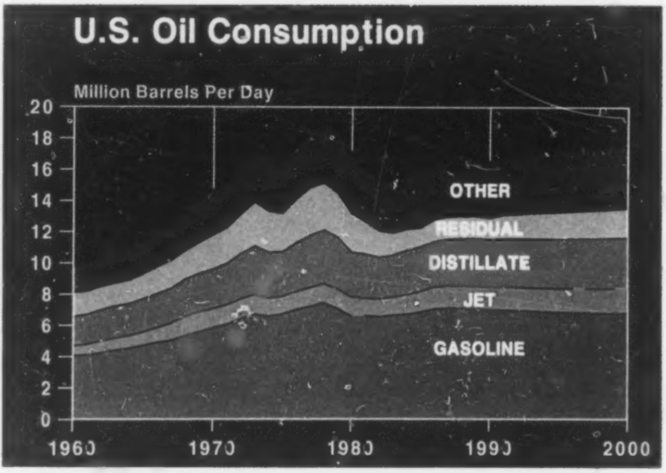
Slow Decline

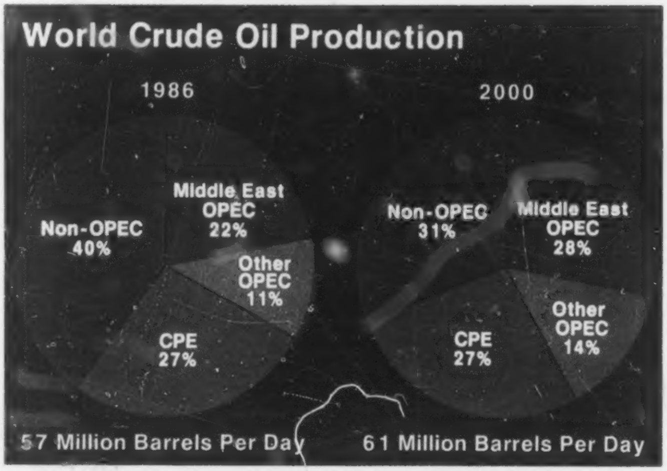
In a pithy commentary, the Chevron economists said:

"In response to the precipitous drop in oil prices in 1986, oil's share of total energy in the U.S. reversed the decline which began in 1979. Besides the increase in cheap transportation, cheaper oil displaced natural gas in industrial uses and in electric generation. Oil accounted for 44% of all energy consumed in 1986 compared with 42% in 1985 while natural gas' share dropped from 23% to 21%. The 1987 oil price recovery and the decline of other energy prices will cause the slow decline of oil's share of total energy to resume.

"Transportation fuels constitute two-thirds of total fuel consumption in the U.S. In 1986, gasoline consumption rose 3% as motorists drove more miles than ever before. However, increasing automobile efficiency will offset future growth in vehicle traffic and gasoline consumption will fall gradually, about 0.3% year."

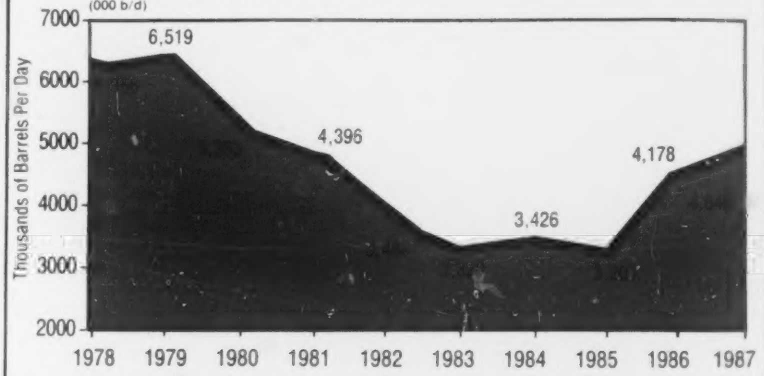






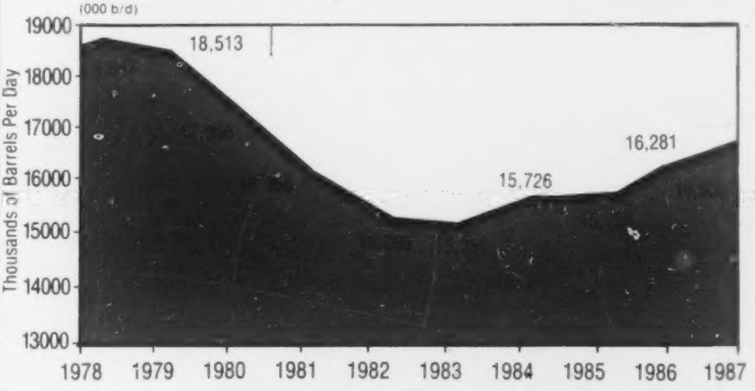
All three illustrations courtesy of Chevron Corp. 1987.

CRUDE OIL IMPORTS



DOMESTIC SUPPLY OF OIL PRODUCTS

Source: Department of Energy



Unleaded Gasoline: The Growth by Years

(Add 000 b/d)

	Total Gasoline Consumption	Unleaded Gasoline Consumption	Unleaded Percent of total
1987 Average	**7,168**	**5,426**	**75.7%**
January	6,469	4,775	73.8
February	6,726	4,991	74.2
March	6,921	5,150	74.4
April	7,317	5,401	73.8
May	7,472	5,577	74.6
June	7,531	5,657	75.1
July	7,575	5,734	75.7
August	7,313	5,628	77.0
September	7,170	5,500	76.7
October	7,289	5,616	77.1
November	7,151	5,587	78.1
December	7,056	5,500	77.9
1986 Average	**7,034**	**4,854**	**69.0**
January	6,052	4,404	67.7
February	6,469	4,365	67.5
March	6,955	4,678	67.3
April	7,105	4,783	67.3
May	7,106	4,729	66.5
June	7,209	4,914	68.2
July	7,436	5,182	69.7
August	7,435	5,138	69.1
September	6,864	4,813	70.1
October	7,250	5,086	70.1
November	6,879	4,918	71.5
December	7,143	5,193	72.7
1985 Avg.	**6,831**	**4,406**	**64.5**
1983 Avg.	**6,622**	**3,647**	**55.1**
1981 Avg.	**6,588**	**3,264**	**49.5**
1979 Avg.	**7,034**	**2,798**	**39.8**
1977(a) Avg.	**7,177**	**1,976**	**27.5**

(a) Unleaded was mandated in July, 1977.
Source: Energy Information Administration, Petroleum Supply Monthly.

Supply and Demand, Principal Products (Add 000 bbl.)

	Motor Gasoline	Aviation Gasoline	Distillate Fuel Oil	Residual Fuel Oil	Jet Fuel (a)	Lubricants	Asphalt
Domestic Supply							
1987(b)	2,616,320	9,863	1,076,750	454,425	489,721	58,512	177,213
1986	2,567,410	10,803	1,063,610	517,570	475,472	47,292	163,526
Production							
1987(b)	2,494,410	9,730	998,640	323,025	485,582	61,879	163,265
1986	2,464,480	10,862	1,021,270	324,485	471,867	55,061	149,811
Imports							
1987(b)	131,400	110	87,600	200,750	13,099	4,081	13,469
1986	118,990	35	90,155	244,185	19,869	3,603	10,358

(a) Includes Naphtha and Kerosine-based fuels; (b) Preliminary including some estimates by NPN.

U.S. Oil Imports (a) (Add 000 b/d)

Year	Crude Oil	Other Products	Residual Fuel Oil	Total Imports	% of Total U.S. Supply
1987(b)	4,648	1,350	550	6,548	39.7%
1986	4,178	1,376	669	6,223	38.2
1985	3,201	1,356	510	5,067	32.2

(a) Does not include Strategic Petroleum Reserve; (b) Preliminary.
Source: Energy Information Administration, Petroleum Supply Monthly.

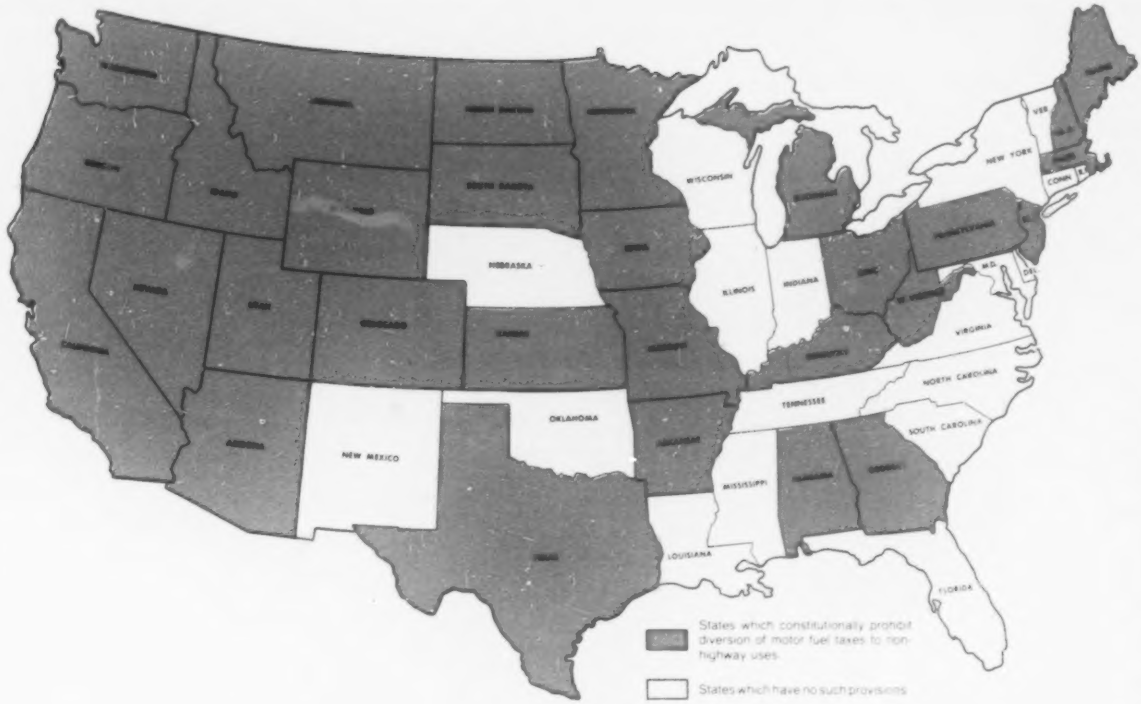
Origins of U.S. Oil Imports

	OPEC Sources		Arab OPEC		Hemispheres	
	Thous. b/d	% of total imports	Thous. b/d	% of total imports	Western Thous. b/d	Eastern Thous. b/d
1987(a)	3,272	46.0%	1,358	19.1%	NA	NA
1986	2,837	45.6	1,162	18.7	2,914	3,137
1985	1,830	36.1	472	9.3	2,855	2,130

(a) Preliminary.
Source: Energy Information Administration, Petroleum Supply Monthly.

	Total Well Completions			Proved Reserves (a)				Supply (Add 000 b/d)	
Year	Total	Dry	%Dry	Crude Oil (b)	Crude Production/ Reserve Ratio	Natural Gas (c)	Natural Gas Production/ Reserve Ratio	Domestic Crude & Natl. Gas Lqds.	Crude & Product Imports
1987(d)	33,100	10,241	30.9%	26,889	9.0	191.6	NA	9,972	6,547
1986	37,620	11,950	31.5	28,416	9.3	193.4	10.6	10,289	6,224
1985	71,359	21,699	30.4	28,416	9.3	193.4	10.6	10,580	5,067

(a) As of Jan. 1 of each year; (b)Millions of bbl.; (c) Trillions of cubic feet; (d) Preliminary.
Source: Energy Information Administration; American Petroleum Institute.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TENNESSEE
SOUTH CAROLINA
OKLAHOMA
NEW MEXICO
MISSISSIPPI
LOUISIANA
FLORIDA
States which constitutionally prohibit diversion of motor fuel taxes to non-highway uses
States which have no such provisions

State Motor Fuel Tax Collections

State	State Gasoline tax rates per gal. in 1987	Total state motor fuel tax revenues[a] (Add 000) 1987	1986	% Change
Alabama	13c	$313,556	$345,178	10.1%
Alaska	8	21,320	19,418	(8.9)
Arizona	16	298,463	318,639	6.8
Arkansas	13.5	197,101	198,430	0.7
California	9	1,204,901	1,262,245	4.8
Colorado	18	244,755	253,151	3.4
Connecticut	19	241,940	287,022	18.6
Delaware	16	41,906	52,957	26.4
Dist. of Col.	15.5	25,209	28,255	12.1
Florida	9.7	599,680	638,944	6.5
Georgia	7.5	299,058	313,574	4.9
Hawaii	11	39,205	41,262	5.2
Idaho	14.5	77,339	79,975	3.4
Illinois	13	672,139	726,510	8.1
Indiana	14	516,791	528,091	2.2
Iowa	16	244,395	260,185	6.5
Kansas	11	154,018	162,282	5.4
Kentucky	15	239,109	307,504	28.6
Louisiana	16	342,726	369,217	7.7
Maine	14	88,386	103,242	16.8
Maryland	18.5	323,847	401,089	23.9
Massachusetts	11	282,457	297,008	5.2
Michigan	15	648,485	684,384	5.5
Minnesota	17	342,842	360,458	5.2
Mississippi	15	145,489	185,642	27.6
Missouri	11	216,674	299,239	38.1
Montana	20	80,478	92,221	14.6
Nebraska	17.9	152,707	163,488	7.1
Nevada	16	79,328	96,083	21.1
New Hampshire	14	77,290	84,916	9.9
New Jersey	8	349,284	309,146	(11.5)
New Mexico	14	107,275	131,344	22.4
New York	8	499,719	526,320	5.3
North Carolina	15.5	503,734	590,000	17.1
North Dakota	17	53,891	64,036	18.8
Ohio	14.7	604,960	745,690	23.3
Oklahoma	16	204,409	213,247	4.3
Oregon	12	141,239	151,952	7.5
Pennsylvania	12	923,965	942,917	2.1
Rhode Island	15	55,315	63,450	14.7
South Carolina	15	258,848	269,283	4.1
South Dakota	13	51,937	57,347	10.4
Tennessee	17	425,328	507,650	19.4
Texas	15	1,002,272	1,463,400	46.0
Utah	19	114,175	158,833	39.1
Vermont	13	39,004	39,660	1.7
Virginia	17.5	441,740	572,090	29.5
Washington	18	406,562	430,243	5.8
West Virginia	10.5	102,833	93,975	(8.6)
Wisconsin	20	403,094	440,181	9.2
Wyoming	8	37,738	33,834	(10.3)
Total	–	**$14,938,656**	**$16,765,307**	**12.2%**
& change from prior year		**6.8%**	**12.2%**	

(a) Estimated for 1987. Both 1987 and 1986 totals include some miscellaneous "other receipts," however. These are smallish amounts. The bulk of the taxes herein are for gasoline. The totals do NOT include diesel fuel or LPG taxes.

Source: Federal Highway Administration, Table SS86-2, published in October, 1987.

State and Federal Gasoline Taxes—1987

(¢ per gal.)

	State gasoline tax rate	State gasohol tax rate	State diesel tax rate	State sales or special taxes*	State + 9.0¢ Federal tax
Alabama	13.0	10.0	14.0	—	22.0
Alaska	8.0	0.0	8.0	—	17.0
Arizona	16.0	16.0	16.0	—	25.0
Arkansas	13.5	13.5	12.5	—	22.5
California	9.0	9.0	9.0	yes	18.0
Colorado	18.0	18.0	20.5	—	27.0
Connecticut	19.0	19.0	19.0	yes	28.0
Delaware	16.0	16.0	16.0	—	25.0
Dist. of Col.	15.5	15.5	15.5	—	24.5
Florida	9.7	7.7	14.7	—	18.7
Georgia	7.5	7.5	7.5	yes	16.1
Hawaii	11.0	11.0	11.0	yes	20.0
Idaho	14.5	10.5	14.5	—	23.5
Illinois	13.0	13.0	15.5	yes	22.0
Indiana	14.0	14.0	15.0	yes	23.0
Iowa	16.0	15.0	18.5	—	25.0
Kansas	11.0	8.0	13.0	—	20.0
Kentucky	15.0	15.0	12.0	—	24.0
Louisiana	16.0	16.0	16.0	—	25.0
Maine	14.0	11.0	14.0	—	23.0
Maryland	18.5	18.5	18.5	—	27.5
Massachusetts	11.0	11.0	11.0	—	20.0
Michigan	15.0	15.0	15.0	yes	24.0
Minnesota	17.0	14.5	17.0	—	26.0
Mississippi	15.0	15.0	15.0	yes	24.5
Missouri	11.0	11.0	11.0	—	20.0
Montana	20.0	20.0	20.0	—	29.0
Nebraska	17.9	15.1	17.9	—	26.9
Nevada	16.0	15.0	17.0	—	25.0
New Hampshire	14.0	14.0	14.0	—	23.0
New Jersey	8.0	0.0	11.0	—	17.0
New Mexico	14.0	0.0	16.0	—	23.0
New York	8.0	8.0	10.0	yes	17.0
North Carolina	15.5	15.5	15.5	—	24.5
North Dakota	17.0	5.0	17.0	—	26.0
Ohio	14.7	14.7	14.7	—	23.7
Oklahoma	16.0	10.0	13.0	—	25.0
Oregon	12.0	12.0	12.0	—	21.0
Pennsylvania	12.0	12.0	12.0	yes	21.0
Rhode Island	15.0	15.0	15.0	yes	24.0
South Carolina	15.0	15.0	15.0	—	24.0
South Dakota	13.0	11.0	13.0	—	22.0
Tennessee	17.0	13.0	15.0	—	26.0
Texas	15.0	11.0	15.0	—	24.0
Utah	19.0	19.0	19.0	—	28.0
Vermont	13.0	13.0	14.0	—	22.0
Virginia	17.5	17.5	16.0	yes	26.5
Washington	18.0	16.2	18.0	—	27.0
West Virginia	10.5	10.5	10.5	—	19.5
Wisconsin	20.0	20.0	20.0	—	29.0
Wyoming	8.0	8.0	8.0	—	17.0

* California: 4.75% sales tax; Connecticut: 2% oil company gross receipts tax; Georgia: 3% tax on retail price; Hawaii: 4% sales tax; Illinois: 6% sales tax; Indiana: 5% sales tax; Michigan: 4% sales tax; Mississippi: 6% sales tax; New York: 4% sales tax and 2.75% of gross receipts from sale of petroleum products; Pennsylvania: 6% franchise tax on gross receipts; Rhode Island: 2% of gross earnings of oil companies; Virginia: 3% of average wholesale price of taxable petroleum products.

Source: American Petroleum Institute and Federal Highway Administration.

Net Gasoline Tax Revenues by States (a)

(Thousands of Dollars)

	1987	1986	1985	1980	1975	State + 9.0¢ Federal tax on gasoline (a)
Alabama	$269,040	$252,869	$245,035	$172,922	$148,571	22.0¢
Alaska	19,360	21,258	24,144	26,175	18,015	17.0
Arizona	314,240	294,210	229,543	118,158	101,624	25.0
Arkansas	198,430	197,101	169,804	113,166	108,581	22.5
California	1,258,470	1,200,981	1,140,251	854,185	743,732	18.0
Colorado	253,050	244,666	185,088	113,442	91,303	27.0
Connecticut	282,780	238,322	212,053	153,155	138,471	28.0
Delaware	52,920	41,878	39,552	29,319	29,707	25.0
District of Columbia	28,210	25,169	24,753	37,576	20,484	24.5
Florida	631,368	592,452	552,407	417,133	362,518	18.7
Georgia	307,425	293,307	278,403	330,485	228,519	16.5
Hawaii	41,250	39,132	32,609	34,778	21,218	20.0
Idaho	79,895	77,252	78,086	52,793	37,112	23.5
Illinois	726,510	672,139	639,106	388,097	374,414	22.0
Indiana	523,900	512,623	416,034	255,149	242,764	23.0
Iowa	259,925	244,149	193,555	167,463	118,923	25.0
Kansas	162,120	153,857	150,421	118,937	94,295	20.0
Kentucky	307,440	239,069	191,457	187,446	168,746	24.0
Louisiana	368,480	341,887	351,109	188,281	153,397	25.0
Maine	103,180	88,333	85,350	51,652	50,609	23.0
Maryland	378,465	309,172	290,548	186,658	176,871	27.5
Massachusetts	296,120	281,527	285,988	212,035	179,913	20.0
Michigan	683,700	648,462	625,063	473,593	397,262	24.0
Minnesota	359,380	341,399	340,704	204,955	143,993	26.0
Mississippi	174,640	136,846	129,522	127,647	127,390	24.0
Missouri	297,440	215,445	208,208	203,177	178,793	20.0
Montana	91,945	80,177	78,966	51,089	36,470	29.0
Nebraska	163,472	152,691	129,180	104,331	81,127	26.9
Nevada	95,700	78,993	71,662	34,625	25,787	25.0
New Hampshire	78,120	71,115	66,231	48,046	36,096	23.0
New Jersey	308,930	349,050	312,791	288,764	278,567	17.0
New Mexico	127,025	103,709	98,149	69,999	57,690	23.0
New York	526,320	499,707	491,730	474,798	499,921	17.0
North Carolina	572,260	488,511	405,450	295,143	265,739	24.5
North Dakota	56,940	48,648	52,242	33,488	24,916	26.0
Ohio	745,690	604,960	549,637	393,133	371,404	23.7
Oklahoma	210,200	202,212	194,567	129,545	111,291	25.0
Oregon	151,800	141,149	125,967	92,880	81,696	21.0
Pennsylvania	939,160	920,233	892,469	575,891	455,400	21.0
Rhode Island	63,450	55,315	48,403	39,260	31,828	24.0
South Carolina	264,880	254,450	247,003	173,412	127,904	24.0
South Dakota	57,330	51,921	51,406	41,809	29,853	22.0
Tennessee	467,880	391,857	294,541	226,785	173,101	26.0
Texas	1,463,400	1,002,272	990,886	480,946	395,221	24.0
Utah	157,886	113,435	112,265	74,074	48,717	28.0
Vermont	39,660	39,004	37,949	21,745	21,703	22.0
Virginia	572,090	441,740	400,424	275,141	264,814	26.5
Washington	430,200	406,527	399,635	254,637	161,514	27.0
West Virginia	93,975	102,833	100,947	101,467	73,042	19.5
Wisconsin	440,181	403,094	374,029	198,684	156,116	29.0
Wyoming	31,680	35,319	34,278	37,576	20,484	17.0
Total U.S.	**$16,527,912**	**$14,742,487**	**$13,683,250**	**$9,736,915**	**$8,320,286**	**23.2¢**
% Change VS Preceding period	**12.1%**	**7.7%**	**40.5%**	**17.0%**	**32.1%**	**(Avg.)**

(a) Does not include sales and special taxes levied in some states and municipal areas; does not include "other receipts" from gasoline sales.
Sources: Federal Highway Administration, Table 5586-2, published in October 1987; data for 1987 are estimates.

Auto, Truck and Farm Tire Shipments

Type of Tire (Add 000)

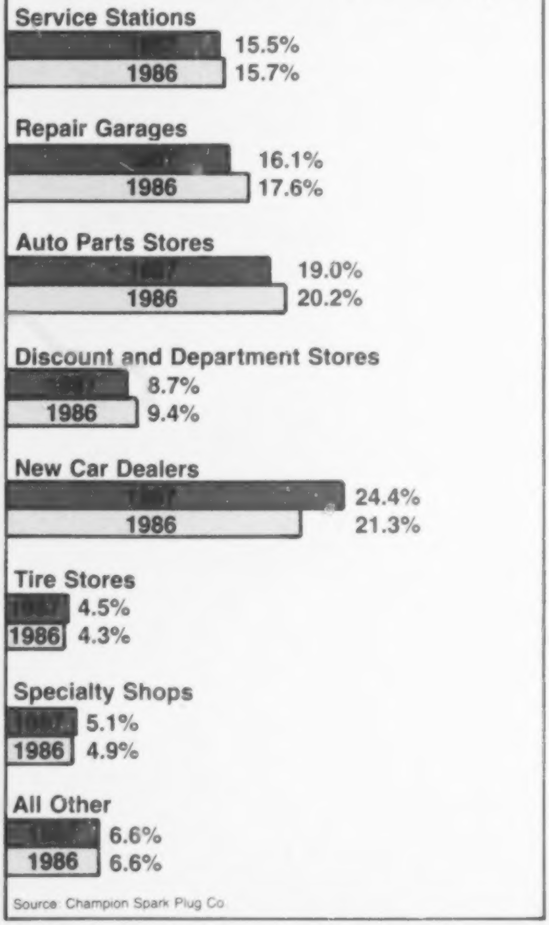
	Passenger	% of Market	Bus/ Truck	% of Market	Farm Equipment	% of Market	Total of Market Type	% of Total
1987								
Original Equipment	52,913	86.2%	7,845	12.8%	608	1.0%	61,366	23.7%
Replacement	151,892	80.3	34,514	18.3	2,658	1.4	189,064	73.1
Export	5,987	72.3	2,069	25.0	226	2.7	8,282	3.2
Total	**210,792**	**81.5**	**44,428**	**17.2**	**3,492**	**1.3**	**258,712**	—
1986								
Original Equipment	54,392	88.1%	6,859	11.1%	512	0.8%	61,763	25.1%
Replacement	144,267	80.6	32,392	18.1	2,319	1.3	178,978	72.7
Export	4,032	73.3	1,302	23.7	170	3.1	5,504	2.2
Total	**202,691**	**82.3**	**40,533**	**16.5**	**3,001**	**1.2**	**246,225**	—

Source: Rubber Manufacturers Assn., Monthly Statistical Report, December, 1987.

'87 Shipments Bounce Back

Depressed somewhat by a decline in original equipment shipments for passenger cars, total tire shipments in 1987 were rosier than they have been in recent years. Replacement tire shipments, which are almost three-quarters of the total market, were up more than 5% for passengers cars, according to Rubber Manufacturers Assn.

Where Consumers Get Tune-Ups



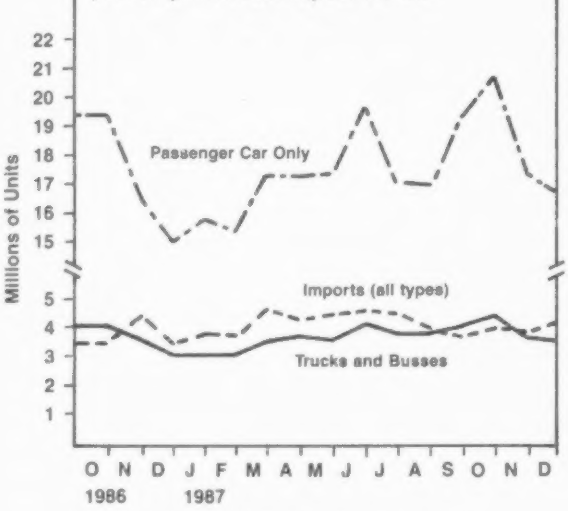
Source: Champion Spark Plug Co.

N.B. Because the questionnaires were revised and the categories were changed in 1987, the data in this chart are not comparable to prior Factbook issues.

'87 vs. '86	Passenger	Bus/ Truck	Farm Equipment	Total by Type of Market
Original equipment	(2.7)%	14.4%	18.8%	(0.6)%
Replacement	5.3	6.6	14.6	5.6
Export	48.5	58.9	32.9	50.5
Total	**4.0**	**9.6**	**16.4**	**5.1**

Source: Rubber Manufacturers Assn., Monthly Statistical Report.

Tire Shipment and Import Trends



Source: Rubber Manufacturers Assn., Monthly Reports 1987.

1986 Ethylene Glycol-Base Antifreeze Sales

	(Add 000 gal.) Civilian	Government
Packaged ethylene glycol antifreeze sold in quart and gallon sizes	112,152,391	-0-
in drums	9,720,813	(*)
Total	**121,873,204**	**(*)**
Bulk ethylene glycol antifreeze (or ethylene glycol for antifreeze) sold to packagers	55,506,903	1,824,428
Bulk ethylene glycol antifreeze (or ethylene glycol for antifreeze) sold to motor vehicle manufacturers for "drive-away" or factory fill use	13,055,115	-0-
Total	**190,435,222**	**1,824,428**
Grand total (civ. and gov't.)		**192,259,650**

Parts and Services Look Good in '88

Although the growth patterns projected for 1987 fell a bit short of expectations in the automotive parts and services business, 1988 is expected to make up for it handsomely, according to the U.S. Commerce Department's annual study, "Franchising in the Economy 1986-1988."

Total sales of products and services this year are expected to exceed $13.7-billion, up a lusty 11.8% over 1987. Average sales per store are projected at $331,347 in 1988, up a more moderate increase of 5.8%.

The store population is continuing to grow, the federal survey shows. The population is expected to exceed 41,467, which also is up a modest 5.5% over 1987. It must be remembered, however, that this federal study concerns itself only with franchised stores which represent only about one-half of the true universe. The latter total is estimated around 75,000 by industry publications and associations.

Automotive products and services include just about everything from tires and spark plugs to lube jobs, oil changes and car washes.

Automotive Products and Services (a)

	1988 (b)	1987 (b)	1986 (b)
Total number of establishments	41,467	39,293	36,763
Company-owned	5,190	5,010	4,851
Franchisee-owned	36,277	34,283	31,912
Total sales of products and services (Add 000) (c)	$13,739,965	$12,293,498	$11,300,863
Company-owned	4,542,359	4,145,912	3,800,495
Franchisee-owned	9,197,606	8,147,586	7,500,368
Average sales per establishment (c)	$331,347	$312,867	$307,398
Company-owned	875,214	827,527	783,446
Franchisee-owned	253,538	237,657	235,033

(a) Includes tire, battery and accessory stores; auto and truck wash services; and brake and muffler repairs and services; (b) Data estimated by respondents; (c) Includes sales of non-automotive products such as household appliances, garden supplies, etc.
Source: "Franchising in the Economy, 1986-1988," Bureau of Industrial Economics, U.S. Department of Commerce.

Car Lubrication Service

1988 Crankcase Drain Intervals and Recommended Oil

		Normal Service		Severe Service		
Make	Model	Miles	Months	Miles	Months	Type Of Oil
Eagle	Jeep	7,500	7.5	—(a)	—(a)	SF/CC
Chrysler Corp.	Turbo	7,500	6	5,000	3	SF/CC SF/CD(b)
	Others	7,500	12	5,000	6	SF SF/CC
Ford Motor Co.	Turbo	5,000	6	3,000	3	SF SF/CC SF/CD
	Others	7,500	6	3,000	3	SF/CC SF/CD
General Motors	Turbo	3,000	3	3,000	3	SF/CC SF/CD
	Others	7,500	12	3,000	3	SF/CD

(a) For Jeep model, change at shorter intervals.
(b) preferred.
Source: Chek-Chart Publications, Simon & Schuster Inc.

1988 Automatic Transmission/Transaxle Drain Intervals and Recommended Fluids

		Normal Service		Severe Service	
Make	Fluid	Months	Miles	Months	Miles
Eagle	MERCON® (c)	30	30,000	—	—
Chrysler Corp.	Dexron®-II(b)	—	(a)	—	15,000
Ford Motor Co.	MERCON®	—	(a)	—	30,000
General Motors	Dexron®-II	—	100,000	—	15,000

(a) Drain not required for normal service.
(b) ATF + or Type 7176 fluid is preferred.
(c) Medallion models use Dexron®-II.
For Jeep models change at shorter intervals.

1988 Chassis Lubrication Intervals

	Normal Service		Severe Service			
Make	Months	Miles	Months	Miles	Type	Part or Specification No.
Jeep	7.5	7,500	Shorter - intervals		#2 Lithium EP	8993630
Chrysler Corp.	36	30,000	18	15,000	#2 Barium EP	4318063
Ford Motor Co. (a)	—	30,000	—	15,000	#2 Lithium EP with polyethylene 8-molybdenum disulfide	M1C75-B
General Motors (b)	12	7,500	6	6,000	#1-2 Multipurpose EP	1050679

(a) Rear wheel drive models only.
(b) Not required for GM-10 and 4WD A body models.
Source: Chek-Chart Publications, Simon & Schuster Inc.

Service Job Analysis Shows Extent Of Repair Work Done by Service Stations

U.S. gasoline service stations still perform a significant share of traditional automotive repair and service jobs, according to Hunter Publishing Company's latest Service Job Analysis.

A special survey in 1986, updating Hunter's massive 1984 SJA report, showed that service stations with repair bays still have a sizeable share of the traditional service market in many basic job categories.

The table beginning below, presenting data selected from the SJA's major repair/service categories, highlights those jobs frequently performed in service stations. Of the 53 job types covered in the table, service stations led in share of market in 27 categories.

The SJA data was based on a service dealer universe of 329,000 outlets at the beginning of 1987, including 115,000 service stations, 150,000 independent repair shops, 25,000 new car/truck dealers and 39,000 fleet service shops. The fleet service segment has been omitted from the table since it relates more to truck repair than automobile service. Not included in the SJA are data for discount stores, auto repair chains or other non-traditional repair outlets.

The 1986 SJA survey update indicated that service stations had a strong presence in the growth segments of the automobile service market—particularly alignment/suspension, carburetors/fuel pumps, air conditioning and cooling system service.

		Service Stations			Independent Repair Shops			New Car/Truck Dealers		
Job	Total Jobs* Performed (Add 000)	Number of Jobs Performed (Add 000)	% of Jobs	% Change from 1985	Number of Jobs Performed (Add 000)	% of Jobs	% Change from 1985	Number of Jobs Performed (Add 000)	% of Jobs	% Change from 1985
LUBRICATION										
Lube Jobs—Car	143,609	68,995	48.0%	(.8)	35,399	24.6%	.1	30,363	21.1%	4.1
Oil Changes—Car	157,509	74,621	47.4	.7	38,346	24.3	2.1	36,699	23.3	5.9
Engine Oil Sold—Quarts	893,889	441,139	49.4	1.9	217,501	24.3	2.3	159,519	17.8	4.7
Oil Filters Replaced—Car	135,422	65,718	48.5	.7	36,244	26.8	2.3	31,647	23.4	6.0
Air Filters Replaced—Car	58,411	25,680	44.0	1.0	20,515	35.1	2.9	11,236	19.2	4.4
CARBURETOR/FUEL PUMP										
Carburetors Installed—New	1,601	543	33.9	1.1	821	51.3	1.1	133	8.3	(1.1)
Carburetor Kits Installed	11,367	3,094	27.2	7.2	6,248	55.0	4.7	1,666	14.7	4.9
Fuel Pumps Installed—New	5,962	2,521	42.3	3.1	2,356	39.5	2.6	760	12.7	4.5
Fuel Filters Replaced—Car	49,441	18,635	37.7	7.4	20,347	41.2	6.7	9,624	19.5	8.4
IGNITION/TUNE-UP										
Engine Tune-Ups—Car	61,085	20,489	33.5	.3	27,042	44.3	.0	12,142	19.9	5.2
Spark Plugs—New	361,344	125,021	34.6	7.2	161,632	44.7	6.4	65,866	18.2	11.3
ELECTRICAL SERVICE										
Batteries Installed	30,304	16,248	53.6	5.8	9,898	32.7	3.9	2,463	8.1	4.3
Battery Cables Installed	16,404	7,318	44.6	1.1	6,699	40.8	.9	1,303	7.9	.9
Alternators Installed—New	2,418	996	41.2	(1.9)	897	37.1	(.3)	370	15.3	1.7
Alternators Inst.—Rebuilt	14,501	7,241	49.9	3.0	5,651	39.0	2.7	930	6.4	3.0
Starters Installed—New	1,792	648	36.2	(.4)	778	43.4	(.9)	271	15.1	.9
Starters Inst.—Rebuilt	12,236	5,975	48.8	3.2	4,856	39.7	2.5	748	6.1	2.7
Voltage Regulators Inst.—New	6,667	2,577	38.7	(1.7)	2,965	44.5	.7	764	11.5	.6
COOLING SYSTEM										
Systems Flushed	14,768	6,704	45.4	2.6	5,560	37.6	4.1	1,970	13.3	6.5
Radiators Replaced—Car	4,992	2,110	42.3	5.3	2,419	48.5	5.8	355	7.1	1.9
Radiator Hose Replaced	28,620	13,666	47.7	4.2	11,451	40.0	5.4	2,496	8.7	5.5
Belts Installed—All Types	60,359	28,054	46.5	6.9	23,299	38.6	8.1	6,602	10.9	8.3
Water Pumps Repl.—New	6,816	2,305	33.8	1.1	3,108	45.6	1.2	1,139	16.7	4.1
Water Pumps Repl.—Rebuilt	6,644	3,103	46.7	.7	2,655	40.0	4.0	633	9.5	2.8
Antifreeze Sold—Gal	87,728	39,936	45.5	3.3	29,327	33.4	3.9	11,545	13.2	7.2

		Service Stations			Independent Repair Shops			New Car/Truck Dealers		
Job	Total Jobs* Performed (Add 000)	Number of Jobs Performed (Add 000)	% of Jobs	% Change from 1985	Number of Jobs Performed (Add 000)	% of Jobs	% Change from 1985	Number of Jobs Performed (Add 000)	% of Jobs	% Change from 1985
EXHAUST SYSTEM										
Mufflers Replaced—Car	14,585	6,337	43.4%	2.1	5,997	41.1%	1.1	2,024	13.9%	1.0
Tail Pipes Replaced	13,110	5,772	44.0	2.1	5,422	41.4	.5	1,438	11.0	1.3
Exhaust Pipes Replaced	6,736	2,834	42.1	(.3)	2,767	41.1	(.9)	762	11.3	.2
Catalytic Converters Repl.	1,340	269	20.1	6.5	301	22.5	4.9	725	54.1	1.7
TRANSMISSION/CLUTCH										
Standard Trans. Rebuilt	1,270	95	7.5	(1.5)	555	43.7	(.3)	476	37.5	(1.0)
Automatic Trans. Rebuilt	2,830	262	9.3	3.5	1,060	37.5	.9	1,404	49.6	4.3
Auto. Trans. Fluid-Quarts	111,017	45,188	40.7	4.1	39,301	35.4	3.0	21,015	18.9	5.8
Auto. Trans. Filters Repl.	14,878	5,423	36.4	3.8	6,077	40.8	3.2	2,804	18.8	5.3
Universal Joints Repl.—Car	11,738	5,089	43.4	.5	5,524	47.1	.6	890	7.6	(.5)
ALIGNMENT/SUSPENSION										
Wheel Balancing Jobs	32,457	16,828	51.8	4.4	10,590	32.6	8.3	3,511	10.8	8.3
Front-End Alignment	25,712	5,944	23.1	6.7	13,087	50.9	10.2	6,286	24.4	9.6
Shock Absorbers Replaced	25,988	10,291	39.6	(.1)	12,581	48.4	1.3	2,218	8.5	1.0
MacPherson Strut Cartridges Installed	4,639	1,108	23.9	6.8	2,774	59.8	5.4	672	14.5	3.4
BRAKES										
Drum Brake Shoes Installed	26,548	10,516	39.6	3.8	12,326	46.4	2.1	3,287	12.4	2.0
Master Cylinders Replaced—New	4,791	1,580	33.0	3.5	2,654	55.4	4.2	409	8.5	1.3
Brake Drums Replaced	526	131	24.9	.6	274	52.1	.9	75	14.3	.1
Brake Drums Turned/Grnd.	31,607	10,806	34.2	8.2	15,961	50.5	7.3	3,925	12.4	6.6
Disc Brake Pads Installed—Car	36,978	14,368	38.9	8.7	16,838	45.5	6.0	5,307	14.4	7.3
Disc Brake Rotors Resurf.	37,813	12,197	32.3	11.7	20,639	54.6	10.1	4,418	11.7	9.0
CHEMICALS										
Engine Oil Additives	13,413	6,998	52.2	(.2)	3,348	25.0	1.5	2,748	20.5	3.7
Gasoline Additives	18,960	12,113	63.9	4.7	4,652	24.5	3.6	1,789	9.4	15.6
Transmission Additives	4,572	2,038	44.6	.0	1,823	39.9	1.6	664	14.5	2.7
Cooling System Rust Inhibitors	13,413	5,903	44.0	1.3	4,731	35.3	2.8	1,510	11.3	6.2
Refrigerant (Freon) Repl.	59,240	21,901	36.8	5.9	24,948	42.1	4.2	10,499	17.7	6.9
ACCESSORIES/AIR CONDITIONING										
Windshield Wiper Refills	43,811	25,472	58.1	5.8	12,092	27.6	3.0	4,570	10.4	7.7
Air Conditioners Serviced	19,571	8,088	41.3	4.1	6,804	34.8	2.6	4,242	21.7	4.6
Air Conditioner Compressors Installed—New	1,122	274	24.4	1.4	452	40.3	.4	352	31.4	3.1
Air Conditioner Compressors Inst.—Rebuilt	1,399	554	39.6	1.1	590	42.2	(.6)	185	13.2	1.6

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*Segment figures and percentages will not add up to total—remainder is accounted for by self-service fleet locations.

U.S. Refineries and Capacities by States

(Crude Oil Operable Capacity on Jan. 1, 1987)

(*after number indicates capacity shut down but capable of being placed in operation within 90 days.)

Company	b/d
Alabama	
Belcher Oil Co.	
(Formerly Mobile Bay Refining Co.)	
Chicksaw	26,600
Hunt Oil Co., Tuscaloosa	**33,500**
LL&E Petroleum Marketing	
(Formerly Louisiana Land & Exploration)	
Mobile	80,000
Vulcan Refining Co., Cordova	**9,500***
Warrior Asphalt Refining, Holt	5,000*
Total	**140,500**
	14,500*
Alaska	
Arco Alaska	
Anchorage	12,000
Prudhoe	22,000
Chevron U.S.A., Kenai	**22,000**
Mapco Petroleum Co.,	
North Pole	90,000
Petro Star, North Pole	**6,700**
Tesoro Petroleum Corp., Kenai	**72,000**
Total	**224,700**
Arkansas	
Berry Petroleum Co.	
Stephens	3,700
Cross Oil & Refining Co.,	
Smackover	6,700
Lion Oil Co.	
El Dorado	41,000
	7,000*
MacMillan Petroleum, Inc.,	
Norphlet	5,800
Total	**57,200**
	7,000*
California	
Arco Petroleum Products, Watson	**216,000**
Beacon Oil Co., Hanford	**17,300**
Champlin Petroleum Co.,	
Wilmington	64,000
Chevron U.S.A.,	
El Segundo	390,000
	15,000*
Richmond	270,000
	80,000*
Conoco, Santa Maria	**9,500**
Edgington Oil Co., Long Beach	**41,600**
Exxon Co. U.S.A., Benica	**120,500**
Fletcher Oil & Refining Co.,	
Carson	29,500
Gibson Oil & Refining Co.,	
Bakersfield	9,600
Golden West Refining Co.,	
Santa Fe Springs	40,600
Huntway Refining Co.	
Benica	7,000
Wilmington	5,500
Kern Oil & Refinery Co.,	
Bakersfield	21,400
Lunday-Thagard Oil Co.,	
South Gate	8,100
MacMillan Petroleum, Inc.,	
Long Beach	14,000
Mobil Oil Corp., Torrance	**123,000**
Newhall Refining Co. Inc.,	
Newhall	23,000
Oxnard Refinery, Oxnard	**4,000**
Pacific Refining Co., Hercules	**55,000**
Paramount Petroleum Corp.,	
Bakersfield	20,500*
Paramount	32,000
Powerine Oil Co.,	
Santa Fe Springs	33,400*
Sabre Refining Co.,	
Bakersfield	10,000*
San Joaquin Refining Co.,	
Bakersfield	10,000
	14,300*
Shell Oil Co., Martinez	**135,200**
Wilmington	102,000
Sunland Refining Corp.,	
Bakersfield	12,000
Texaco Refining & Marketing Co.	
Bakersfield	38,000
Wilmington	75,000
Tosco Corp., Avon	**126,000**
Unocal Corp.	
Arroyo Grande	41,500
Rodeo	**70,000**
Wilmington	108,000
West Coast Oil Co., Oildale	**5,000***
Western Oil & Refining,	
Long Beach	19,200*
Witco Chemical Corp., Oildale	**0**
Total	**2,218,800**
	211,900*
Colorado	
Asamera Oil (U.S.),	
Commerce City	28,000
Conoco Commerce City	**41,500**
Total	**69,500**
Delaware	
Texaco Refining & Marketing Co.	
Delaware City	140,000
Florida	
Seminole Refining Corp.	
St. Marks	17,000
Georgia	
Amoco Oil Co., Savannah	**28,000**
Young Refining Corp.,	
Douglasville	6,000
Total	**34,000**
Hawaii	
Chevron U.S.A., Honolulu	**48,000**
Hawaiian Independent Refining,	
Ewa Beach	66,000
Total	**114,000**
Illinois	
Clark Oil & Refining Corp.,	
Blue Island	64,600
Hartford	63,600
Marathon Petroleum Co.,	
Robinson	120,000
	75,000*
Mobil Oil Corp., Joliet	**180,000**
Motor Oils Refining Co.,	
McCook	1,500
Shell Oil Co., Wood River	**274,000**
Unocal Corp.	
Lemont	151,000
Total	**854,700**
	75,000*
Indiana	
Amoco Oil Co., Whiting	**350,000**
Indiana Farm Bureau Cooperative	
Assn., Mount Vernon	21,200
Kentucky Oil & Refining Co.,	
Troy	1,000
Laketon Refining Corp., Laketon	**8,700**
Rock Island Refining Corp.,	
Indianapolis	45,000
Total	**425,900**
Kansas	
Derby Refining Co.,	
El Dorado	**30,400**
Wichit	**28,800**
Farmland Industries, Coffeyville	**56,500**
Phillipsburg	26,400
National Cooperative Refinery	
Assn., McPherson	70,900
Texaco Refining & Marketing Co.	
El Dorado	80,000
Total Petroleum, Arkansas City	**50,000**
Total	**343,000**
Kentucky	
Ashland Oil, Catlettsburg	**213,400**
Kentucky Oil & Refining Co,	
Betsy Lane	600*
Somerset Refinery Inc.,	
Somerset	5,500
Total	**218,000**
	600*
Louisiana: Gulf	
Calcasieu Refining Co.,	
Lake Charles	13,500
Calumet Refining,	
Princeton	4,207
Canal Refining Co.,	
Church Point	8,000
Citgo Petroleum Corp.,	
Lake Charles	297,000
	23,000*
Clairborne Gasoline Co.,	
Lisbon	7,500
Clark Oil & Refining Corp.,	
Mt. Airy	0
Conoco, Egan	3,200
West Lake	156,500
Exxon Co. U.S.A.,	
Baton Rouge	455,000
Hill Petroleum Co.	
Krotz Springs	57,400
St. Rose	32,000
Kerr-McGee Reining Corp.	
Cotton Valley	7,800
Dubach	10,000
Louisiana Oil Refining, Egan	8,400*
Marathon Petroleum Co.,	
Garyville	255,000
Murphy Oil U.S.A., Meraux	78,500
	14,000*
Pennzoil Products Co.,	
Shreveport	46,200
Placid Refining Co.,	
Port Allen	43,000
Shell Oil Co., Norco	215,000
Standard Oil Co.	
Belle Chasse	198,500
Tenneco Oil Co., Chalmette	130,000
Texaco Refining & Marketing Co.,	
Convent	225,000
Texas NAPCO, St. James	17,000*
Total	**2,243,307**
	62,400*
Michigan	
Crystal Refining Co.,	
Carson City	3,000
Lakeside Refining Co.,	
Kalamazoo	5,600*
Marathon Petroleum Co.,	
Detroit	68,500
Total Petroleum, Alma	**42,000**
Total	**113,500**
	5,600*

Company	b/d
Minnesota	
Ashland Oil, St. Paul Park	**67,143**
Koch Refining Co., Rosemount	**155,000**
Total	**222,143**
Mississippi	
Amerada Hess Corp., Purvis	**31,000**
Chevron U.S.A., Pascagoula	**295,000**
Ergon Refining, Vicksburg	**20,600**
Southland Oil Co., Lumberton	**5,800**
Sandersville	11,000
Total	**362,400**
Montana	
Cenex, Laurel	**33,650**
	7,800*
Conoco, Billings	**48,500**
Exxon Co. U.S.A., Billings	**42,000**
Flying J, Cut Bank	**5,600***
Montana Refining Co.,	
Great Falls	6,300
Total	**130,450**
	13,400*
Nevada	
Nevada Refining Co, Tonopah	**4,500**
New Jersey	
Amerada Hess Corp.,	
Port Reading	0
Chevron U.S.A., Perth Amboy	**80,000**
Coastal Eagle Point Oil Co.,	
Westville	90,000
Exxon Co. U.S.A., Linden	**100,000**
Mobil Oil Corp., Paulsboro	**100,000**
Seaview Petroleum Co.,	
Paulsboro	44,000
Total	**414,400**
New Mexico	
Bloomfield Refining Co.,	
Bloomfield	16,800
Giant Refining Co.,	
Gallop	18,000
Navajo Refining Co., Artesia	**34,700**
Thriftway Oil Co., Bloomfield	**6,100**
Total	**75,600**
New York: East	
Cibro Petroleum Products,	
Albany	41,850*
North Carolina	
City Gas & Transmission	
(Formerly ATC Petroleum)	
Wilmington	10,000*
GNC Energy Corp., Greensboro	**3,000***
Total	**13,000***
North Dakota	
Amoco Oil Co., Mandan	**58,000**
Flying J, Williston	**4,600***
Total	**58,000**
	4,600*
Ohio	
Ashland Oil, Canton	**66,000**
Standard Oil Co.	
Lima	168,000
Toledo	126,100
Sun Co., Toledo	**118,000**
Total	**481,100**
Oklahoma	
Barrett Refining Corp., Thomas	**12,500**
Conoco, Ponca City	**134,000**
Kerr-McGee Corp., Wynnewood	**34,000**
	9,000*
Sinclair Oil Corp.,	
Tulsa	50,000
Sun Co., Tulsa	**85,000**
Total Petroleum, Ardmore	**62,000**
Total	**377,500**
	9,000*
Oregon	
Chevron U.S.A., Willbridge	**0**
Pennsylvania	
Atlantic Refining & Marketing Co.	
Philadelphia	125,000
BP Oil Corp., Marcus Hook	**172,000**
Chevron U.S.A.	
Philadelphia	174,100
Pennzoil Co., Rouseville	**15,700**
Quaker State Oil Refining Corp.,	
Smethport	6,700
Sun Co., Marcus Hook	**155,000**
Total	**648,500**
United Refinery Co.,	
Warren	**60,000**
Witco Corp., Bradford	**8,500**
Total	**68,500**
	717,000
Tennessee	
Mapco Petroleum Co.,	
Memphis	60,000
Texas	
Amber Refining Co.,	
Fort Worth	19,700*
Amoco Oil Co.,	
Texas City	400,000
Champlin Petroleum Co.,	
Corpus Christi	154,400
Chevron U.S.A.	
El Paso	76,000
Port Arthur	406,900
Coastal Refining & Marketing Co.	
Corpus Christi	87,500
Crown Central Petroleum Corp.,	
Pasadena	100,000
Diamond Shamrock Refining & Marketing	
McKee	91,000
Three Rivers	47,000
El Paso Refining Co.	
(Formerly Texaco Refining & Marketing)	
El Paso	21,600
Exxon U.S.A.	
Baytown	426,000
	67,000*
Fina Oil & Chemical Co.	
Big Spring	55,000
Port Arthur	90,000
Hill Petroleum Co.	
(Formerly Charter International Oil Co.)	
Houston	65,000
Howell Hydrocarbons Corp.	
San Antonio	9,900
Koch Refining Co.	
Corpus Christi	125,000
La Gloria Oil & Gas Co.,	
Tyler	46,000
Leal Petroleum Corp.,	
Nixon	15,000
Liquid Energy Corp.,	
Bridgeport	10,000
Lyondell Petrochemical Co.	
Houston	260,000
Marathon Petroleum Co.,	
Texas City	69,500
Mobil Oil Corp.,	
Beaumont	275,000
Petrolite,	
Kilgore	1,000
Phillips 66 Co.	
Borger	105,000
Sweeney	175,000
Pride Refining,	
Abilene	28,500
Shell Oil Co.,	
Deer Park	214,000
Odessa	28,600
South Hampton Refining Co.,	
Silsbee	0
Southwestern Refining Co.,	
Corpus Christi	104,000
Texaco Refining & Marketing Co.,	
Port Arthur/Port Neches	250,000
Texas City Refining,	
Texas City	119,600
Trifinery	
Corpus Christi	30,000*
Unocal Corp.,	
Beaumont (Nederland)	120,000
Valero Refining Co.	
Corpus Christi	19,000*
Total	**3,426,500**
	185,750*
Utah	
Amoco Oil Co., Salt Lake City	**40,000**
Big West Oil Co.	
Salt Lake	24,000
Chevron U.S.A., Salt Lake City	**45,000**
Crysen Corp., Woods Cross	**11,500**
Phillips 66 Co.,	
Woods Cross	25,000
Seagull Refining Co.,	
Roosevelt	8,000
Total	**153,500**
Virginia	
Amoco Oil Co., Yorktown	**51,000**
Primary Oil & Energy Co.,	
Chester	2,400
Virginia Oil & Refining Co.,	
Jonesville	1,000*
Total	**53,400**
	1,000*
Washington	
Arco Petroleum Products Co.,	
Ferndale	163,000
Chevron U.S.A.,	
Richmond Beach	0
Mobil Oil Corp., Ferndale	**77,000**
Shell Oil Co., Anacortes	**77,000**
Sound Refining	
Tacoma	**11,900***
Texaco Refining & Marketing Co.,	
Anacortes	78,000
U.S. Oil & Refining Co., Tacoma	**32,000**
Total	**427,000**
	11,900*
West Virginia	
Quaker State Oil Refining Corp.,	
Newell	**12,150**
St. Mary's	**4,658**
Total	**16,808**
Wisconsin	
Murphy Oil Corp., Superior	**32,000**
Wyoming	
Amoco Oil Co., Casper	**40,000**
Frontier Refining Co.	
Cheyenne	33,500
Little America Refining Co.,	
Casper	24,500
Mountaineer Refining Co.,	
La Barge	350*
Silver Eagle Oil Co.	
La Barge	3,000*
Sinclair Oil Corp.,	
Sinclair	53,000
Wyoming Refining Co.,	
Newcastle	12,555
Total	**163,555**
	3,350*
Guam	
Guam Oil & Refining Co.,	
Agana	43,900*
Puerto Rico	
Chevron U.S.A.	
(Formerly Gulf Refining & Marketing Co.)	
Bayamon	38,000
Phillips Puerto Rico Core,	
Guayama	0
Sun Co., Yabucoa	**85,000**
Total	**123,000**
Virgin Islands	
Amerada Hess Corp., St. Croix	**370,000**
	175,000*

Source: Petroleum Supply Annual, 1986, Energy Information Administration, Published May 1987.

Lubricating Oil and Wax Capacities of U.S. Refineries

(All capacities in 000 b/d) as of Jan. 1, 1988

			Finished Lube Capacity					Wax Capacity	
Company	Location	Crude Capacity	A	B	C	D	Total	E	F
Amoco Oil Co.	Caspar, Wyo.	40.0	1.5	0.1			1.6		0.5
Amoco Oil Co.	Whiting, Ind.	350.0	6.2				6.2	0.6	
Ashland Oil, Inc.	Catlettsburg, Ky.	213.4	7.5				7.5		2.0
Calumet Refining Co.	Burnham, Ill.					0.6	0.6		
Calumet Refining Co.	Princeton, La.	4.4				3.2	3.2		
Chevron U.S.A. Inc.	Port Arthur, Tex.	406.9	6.1	0.5	2.0	0.1	8.7		0.3
Chevron U.S.A. Inc.	Richmond, Calif.	350.0			2.3		2.3	1.2	1.0
Cit-Con Oil Corp.	Lake Charles, La.		9.1				9.1	1.0	0.8
Conoco Inc.	Ponca City, Okla.	134.0	2.0				2.0	0.2	
Cross Oil & Refining	Smackover, Ark.	7.0				4.0	4.0		
Diamond Shamrock	Three Rivers, Tex.	2.0							
Exxon Co., U.S.A.	Baton Rouge, La.	455.0	16.0	0.5			16.5	1.5	
Exxon Co., U.S.A.	Baytown, Tex.	494.0	19.8		9.0		28.8		1.8
Farmland Industries, Inc.	Coffeyville, Kans.	56.5	2.5				2.5		0.2
Lubricating Co. of America	Saugus, Calif				0.5		0.5		
Lyondell Petrochemical Co.	Houston, Tex.	260.0	3.8				3.8		0.4
Macmillan Petroleum Inc.	Norphlet, Ark.	6.0				2.2	2.2		
Mobil Oil Corp.	Beaumont, Tex.	270.0	7.5				7.5	1.3	0.3
Mobil Oil Corp.	Paulsboro, N.J.	100.0	7.0				7.0		
Pennzoil Co.	Rouseville, Pa.	15.7						0.6	0.4
Pennzoil Co./Atlas Processing Co.	Shreveport, La.	46.2	3.6				3.6	1.0	
Petrolite Corp.	Barnsdall, Okla.							0.4	
Petrolite Corp., Bareco Div.	Kilgore, Tex.	1.0							0.3
Quaker State Oil Ref. Corp.	Emlenton, Pa.							0.7	
Quaker State Oil Ref. Corp.	Farmers Valley, Pa.	6.5	1.7				1.7	0.4	0.5
Quaker State Oil Ref. Corp.	Newell, W.V.	11.7							0.8
Quaker State Oil Ref. Corp.	St. Mary's, W.V.	4.9	1.0	0.6			1.6		0.3
Seaview Petroleum Co.	Paulsboro, N.J.	33.0				5.0	5.0		
Shell Oil Co.	Deer Park, Tex.	214.0	4.6				4.6	1.2	
Shell Oil Co.	Martinez, Calif.	135.2			3.8		3.8		
Shell Oil Co.	Wood River, Ill.	274.0							
Standard Oil Co.	Lima, Ohio	178.0	2.4				2.4		0.8
Sun Company, Inc.	Marcus Hook, Pa.	155.0				4.0	4.0		
Sun Company, Inc.	Tulsa, Okla.	85.0	7.5				7.5	0.8	
Sun Company, Inc.	Yabucoa, Puerto Rico	85.0							1.7
Texaco U.S.A.	Port Arthur, Tex.	250.0	15.0	0.1	1.0		16.1		1.8
Unocal	Nederland, Tex.	120.0	3.1				3.1	0.1	0.2
Unocal	Rodeo, Calif.	77.0	5.1				5.1	0.8	1.2
Witco Chemical Corp.	Bradford, Pa.	10.0	1.6	0.9			2.5	0.2	
Witco Chemical Corp	Oildale, Calif.	11.0			2.7	1.0	3.7		
	TOTAL:	**4862.4**	**134.6**	**2.6**	**21.3**	**20.1**	**178.6**	**12.0**	**15.3**

Canadian Refineries

Esso Petroleum Canada	Sarnia, Ontario	126.0	4.6		0.7		5.3	0.5	1.8
Esso Petroleum Canada	Strathcona, Alberta	157.0					2.7		0.6
International Waxes, Ltd.	Agincourt, Ontario							0.8	
Petro-Canada Products	Clarkson, Ontario	60.0					4.6		1.0
Shell Canada, Ltd.	Montreal East, Quebec	31.0	3.4				3.4		1.0
	TOTAL:	**374.0**	**8.0**		**0.7**		**16.0**	**1.3**	**4.4**

Definitions: A-Solvent extracted paraffinic lubes; B-Unextracted paraffinic lubes; C-Solvent extracted naphthanic lubes; D-Unextracted unhydrotreated naphthanic lubes; E-Fully refinished, crude scale and microcrystalline waxes; F-Semi-finished, slack waxes and petrolatums.

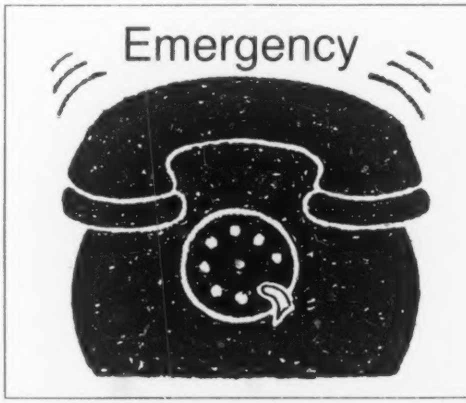
Source: National Petroleum Refiners Assn., Lubricating Oil and Wax Capacities, 1987

If there's a pain in your chest, be a pain in the neck.

Complain to a doctor.

Chest pain could be a sign of heart disease. The sooner you see your doctor, the better your chances for life.

American Heart Association
WE'RE FIGHTING FOR YOUR LIFE



U.S. Refineries and Capacities by Companies

(In descending order as of Jan. 1, 1987)

Important note: This listing includes capacity that is operational and capacity that is idle or shut down. In the latter case, this capacity can be restored to normal within 90 days. The Energy Information Administration says there were 219 operable refineries on Jan. 1, 1987, compared with a total of 216 the preceding year. The crude distillation capacity was 15.6-million b/d, compared with the year ago figure of 15.5-million b/d. For earlier data, see 1987 NPN Factbook.

Companies with a capacity of more than 100,000 b/d. Number of companies: 31; Total capacity: 13,511,343 b/d.

Company	b/d
Chevron U.S.A.	
Port Arthur, TX	406,900
El Segundo, CA	405,000
Richmond, CA	350,000
Pascagoula, MS	295,000
Philadelphia, PA	174,100
Perth Amboy, NJ	80,000
El Paso, TX	76,000
Honolulu, HI	48,000
Salt Lake City, UT	45,000
Kenai, AK	22,000
Total	1,902,000
Exxon Co. U.S.A.	
Baytown, TX	493,000
Baton Rouge, LA	455,000
Benicia, CA	120,500
Linden, NJ	100,000
Billings, MT	42,000
Total	1,210,500
Shell Oil Co.	
Wood River, IL	274,000
Deer Park, TX	214,000
Norco, LA	215,000
Martinez, CA	135,200
Wilmington, CA	102,000
Anacortes, WA	77,000
Odessa, TX	28,600
Total	1,045,800
Amoco Oil Co.	
Texas City, TX	400,000
Whiting, IN	350,000
Mandan, ND	58,000
Yorktown, VA	51,000
Casper, WY	40,000
Salt Lake City, UT	40,000
Savannah, GA	28,000
Total	967,000
Texaco Refining & Marketing	
Convent, LA	225,000
Port Arthur/Port Neches	250,000
Delaware City, DE	140,000
El Dorado, KS	80,000
Anacortes, WA	78,000
Wilmington, CA	75,000
Bakersfield, CA	38,000
Total	886,000
Mobil Oil Corp.	
Beaumont, TX	275,000
Joliet, IL	180,000
Torrance, CA	123,000
Paulsboro, NJ	100,000
Ferndale, WA	77,000
Total	755,000
Atlantic Richfield Co.	
Houston, TX	260,000
Carson (Watson), CA	215,000
Ferndale (Cherry Point), WA	163,000
Prudhoe, AK	22,000
Anchorage, AK	12,000
Total	673,000
Standard Oil Co.	
Belle Chasse, LA	198,500
Lima, OH	171,000
Toledo, OH	126,100
BP Oil Corp.	
Marcus Hook, PA	172,000
Total	667,600
U.S. Steel Corp.	
Marathon Petroleum Co.	
Garyville, LA	255,000
Robinson, IL	195,000
Texas City, TX	69,500
Detroit, MI	68,500
Total	588,000
Unocal Corp.	
Lemont (Chicago), IL	151,000
Beaumont (Nederland), TX	120,000
Wilmington, CA	108,000
Rodeo (San Francisco), CA	70,000
Arroyo Grande, CA	41,000
Total	490,000
E.I. Du Pont De Nemours & Co.	
Conoco, Inc.	
West Lake (Lake Charles), LA	156,500
Ponca City, OK	134,000
Billings, MT	48,500
Denver (Commerce City), CO	41,500
Santa Maria, CA	9,500
Egan (Acadia), LA	3,200
Total	393,200
Sun Co. Inc.	
Marcus Hook, PA	155,000
Toledo, OH	118,000
Tulsa, OK	85,000
Total	358,000
Ashland Oil Inc.	
Catlettsburg, KY	213,400
St. Paul Park, MN	67,143
Canton, OH	66,000
Total	346,543
Southland Corp./Citgo Petroleum Corp.	
Lake Charles, LA	320,000
Coastal Corp.	
Westville, NJ	90,000
Corpus Christi, TX	87,500
Hercules, CA	55,000
El Dorado, KS[1]	30,400
Wichita, KS	28,800
Chickasaw, AL[2]	26,600
Total	318,300
Phillips Petroleum Co.	
Phillips 66 Co.	
Sweeny, TX	175,000
Borger, TX	105,000
Woods Cross, UT	25,000
Total	305,000
Koch Industries	
Koch Refining Co.	
Rosemount, MN	155,000
Corpus Christi, TX	125,000
Total	280,000
Union Pacific Corp.	
Champlin Petroleum Co.	
Corpus Christi, TX	154,500
Wilmington, CA	64,000
Total	280,000
Kerr-McGee Corp.	
Kerr-McGee Refining Corp.	
Wynnewood, OK	43,000
Dubach, LA	10,000
Cotton Valley, LA	7,800
Southwestern Refining Co.	
Corpus Christi, TX	104,000
Total	164,800
Solomon, Inc.[3]	
Hill Petroleum Co.	
Houston, TX[4]	65,000
Krotz Springs, LA	57,400
St. Rose, LA[5]	32,000
Total	154,400
Total Petroleum Inc.	
Ardmore, OK	62,000
Arkansas City, KS	50,000
Alma, MI	42,000
Total	154,000
Mapco Petroleum Inc.	
North Pole, AK	90,000
Memphis, TN	60,000
Total	150,000
Fina Oil & Chemical Co.	
Port Arthur, TX	90,000
Big Spring, TX	55,000
Total	145,000
Diamond Shamrock Refining & Marketing Co.	
Sunray, TX	91,000
Three Rivers, TX	47,000
Total	138,000
Tenneco Oil Co.	
Chalmette, LA	130,000
Apex Oil Co.	
Clark Oil & Refining Co.	
Blue Island, IL	64,600
Hartford, IL	63,600
Total	128,200
Sinclair Oil Corp.	
Sinclair, WY	53,000
Tulsa, OK	50,000
Little America Refining Co.	
Casper, WY	24,500
Total	127,500

Company	b/d
Tosco Corp.	
Martinez, CA	126,000
Atlantic Refining & Marketing Corp.	
Philadelphia, PA	125,000
Murphy Oil U.S.A.	
Meraux, LA	92,500
Superior, WI	32,000
Total	124,500
Agway Petroleum Corp.	
Texas City Refining	
Texas City, TX	119,600

Companies with capacity of 30,001 to 100,000 b/d. Number of companies: 26; Total capacity: 1,352,150 b/d.

Company	b/d
Crown Central Petroleum Corp.	
Pasadena, TX	100,000
Farmland Industries Inc.	
Coffeyville, KS	56,500
Phillipsburg, KS	26,400
Total	82,900
LL&E Petroleum Marketing[6]	
Mobile, AL	80,000
Tesoro Petroleum Corp.	
Kenai, AK	72,000
National Cooperative Refinery Assn.	
McPherson, KS	70,900
Pennzoil Products Co.	
Shreveport, LA	46,200
Rouseville, PA	15,700
Roosevelt, UT[7]	8,000
Total	69,900
United Refining Co.	
Warren, PA	60,000
Vulcan Refining Co.	
Cordova, AL	9,500
Total	69,500
Paramount Petroleum Corp.	
Paramount, CA	46,500
Bakersfield, CA	20,500
Total	67,000
Pacific Resources Inc.[8]	
Hawaiian Independent Refinery	
Ewa Beach, HI	66,000
Lion Oil Co.	
El Dorado, AR	48,000
Texas Eastern Corp.	
La Gloria Oil & Gas Co.	
Tyler, TX	46,000
Rock Island Refining Corp.	
Indianapolis, IN	45,000
Seaview Petroleum Co.	
Paulsboro, NJ	44,400
Placid Oil Co.	
Placid Refining Co.	
Port Allen, LA	43,000
Soberbio	
Pride Refining Inc.	
Abilene, TX	42,750
Cibro Petroleum Products, Inc.	
Albany, NY	41,850
Triad Terminal Corp.	
Edgington Oil Co.	
Long Beach, CA	41,600
Cenex	
Laurel, MT	41,450
Holly Corp.	
Navado Refining Co.	
Artesia, NM	34,700
Montana Refining Co.	
Great Falls, MN	6,300
Total	41,000
Flying J Petroleum	
Cut Bank, MT	5,600
Williston, ND	4,600
Big West Oil Co.	
Salt Lake, UT	24,000
Total	34,200
Hunt Oil Co.	
Tuscaloosa, AL	33,500
Frontier Refining Co.	
Cheyenne, WY	33,500
Powerine Oil Co.	
Sante Fe Springs, CA	33,400
Time Oil Co.	
Tacoma, WA	32,000
Young Refining Co.	
Douglasville, GA	6,000
Seminole Refining Co.	
St. Marks, FL	17,000
Laketon Refining Corp.	
Laketon, IN	8,700
Total	31,700

Companies with capacity 10,001 to 30,000 b/d. Number of companies: 27; Total capacity: 538,163 b/d.

Company	b/d
Amerada Hess Corp.	
Purvis, MI	30,000
Trifinery	
Corpus Christi, TX	30,000
Fletcher Oil & Refining Co.	
Carson, CA	29,500
Asamera Oil (U.S.)	
Commerce City (Denver), CO	28,000
San Joaquin Refining Co.	
Bakersfield, CA	24,300
Quaker State Oil Refining Corp.	
Newell, WVA	12,150
Bradford, PA	6,700
St. Mary's, WVA	4,658
Total	23,508
Crysen Corp.	
Woods Cross, UT	11,500
Tacoma, WA	11,900
Total	23,400
Pauley Petroleum	
Newhall Refining Co.	
Newhall, CA	23,000
El Paso Refining Co.	
El Paso, TX	21,600
Kern Oil & Refinery Co.	
Bakersfield, CA	21,400
Indiana Farm Bureau Cooperative	
Mount Vernon, IN	21,200
Ergon Inc.	
Vicksburg, MS	20,600
MacMillan Petroleum Inc.	
Long Beach, CA	14,000
Norphlet, AK	5,800
Total	19,800
E-Z Serv Inc.	
Amber Refining Co.	
Fort Worth, TX	19,700
Western Oil & Refining	
Long Beach, CA	19,200
Valero Refining Co.	
Corpus Christi, TX	19,000
Giant Refining Co.	
Gallup (Ciniza), NM	18,000
American Ultramar Ltd.	
Beacon Oil Co.	
Hanford, CA	17,300
Texas NAPCO Inc.	
St. James, LA	17,000
Gary Energy Corp.	
Bloomfield Refining Co.	
Bloomfield, NM	16,800
VGS Corp.	
Southland Oil Co.	
Sandersville, MS	11,000
Lumberton, MS	5,800
Total	16,800
Leal Petroleum Corp.	
Lake Charles, LA	15,000
Calcasieu Refining Co.	
Lake Charles, LA	13,500
Wyoming Refining Co.	
Newcastle, WY	12,555
Huntway Refining Co.	
Benicia, CA	7,000
Wilmington, CA	5,500
Total	12,500
Barrett Refining Corp.	
Thomas, OK	12,500
World Oil Co.	
Sunland Refining Co.	
Bakersfield, CA	12,000

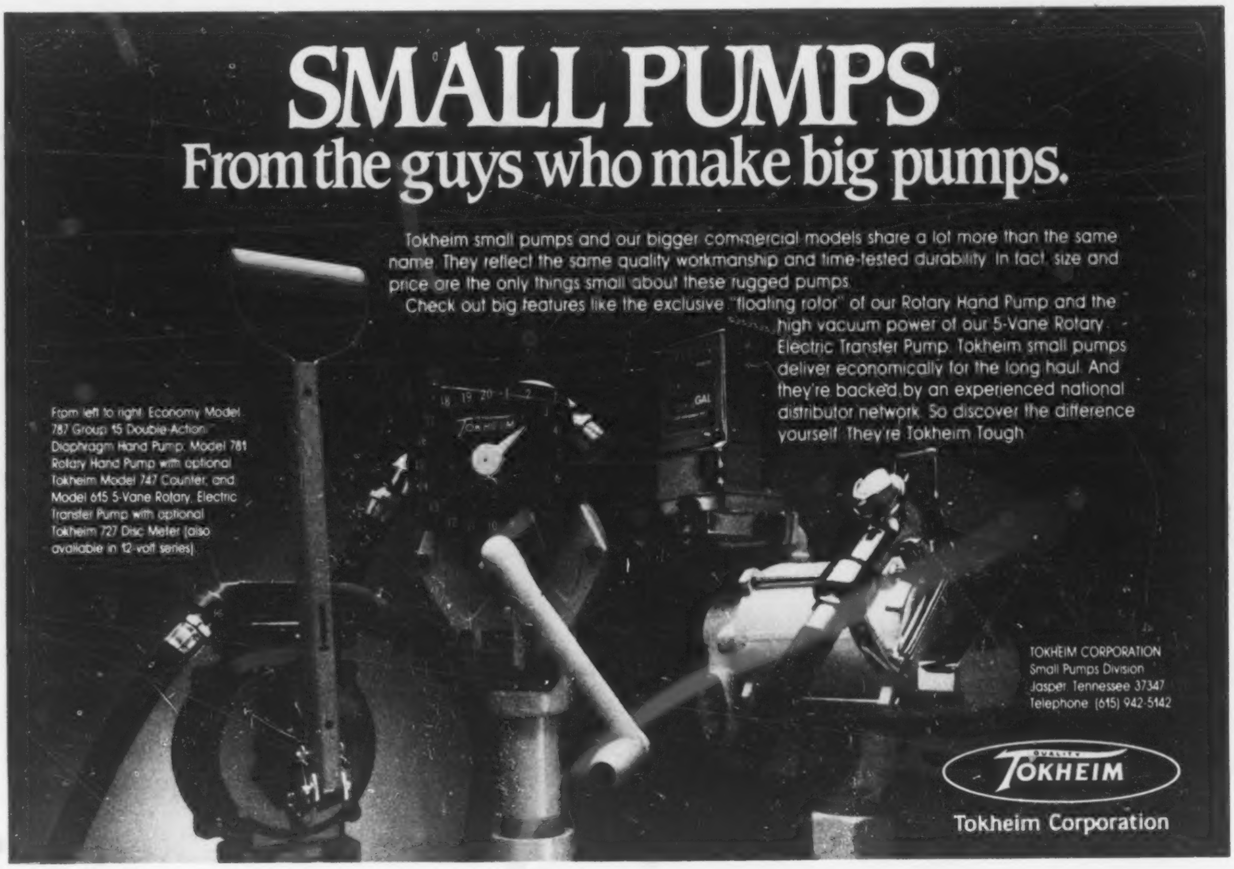
Companies with capacity 10,000 b/d or less. Number of companies: 30; Total capacity: 163,857 b/d.

Company	b/d
City Gas & Transmission Co.	
Wilmington, NC	10,000
Saber Refining	
Bakersfield, CA	10,000
Mitchell Energy and Development Corp.	
Liquid Energy Corp.	
Bridgeport, TX	10,000
Howell Corp	
Howell Hydrocarbons Corp.	
San Antonio, TX	9,900

Company	b/d
Gibson Oil & Refining Co.	
Bakersfield, CA	9,600
Witco Corp.	
Bradford, PA	8,500
Louisiana Oil Refining Co.	
Egan, LA	8,400
Thagard Oil Co.	
South Gate, ~~CA~~	8,100
Anchor Gasoline Corp.	
Canal Refining Co.	
Church Point, LA	8,000
Claiborne Gasoline Co.	
Lisbon, LA	7,500
Moore & Munger[10]	
Cross Oil & Refining Co.	
Smackover, AR	6,700
Petro Star	
North Pole, AK	6,700
Thriftway Co.	
Bloomfield, NM	6,100
Lakeside Refining Co.	
Kalamazoo, MI	5,600
Somerset Refinery	
Somerset, KY	5,600
West Coast Oil Co.	
Oildale, CA	5,000
Warrior Asphalt Refining	
Holt, AL	5,000
Nevada Refining Co.	
Tonopah, NV	4,500
Calumet Refining Co.	
Princeton, LA	4,207
Oxnard Refinery	
Oxnard, CA	4,000
Martin Gas Sales	
Berry Petroleum Co.	
Stephens, AR	3,700
GNC Energy Corp.	
Greensboro, NC	3,000
Silver Eagle Oil Co.	
La Barge, WY	3,000
Crystal Refining Co.	
Carson City, MI	3,000
Primary Oil & Energy Co.	
Chester, VA	2,400
Kentucky Oil & Refining Co.	
Troy, IN	1,000
Betsy Lane, KY	600
Total	1,600
Motor Oils Refining Co.	
McCook, IL	1,500
Petrolite Corp.	
Kilgore, TX	1,000
Virginia Oil & Refining Co.	
Jonesville, VA	1,000
Mountaineer Refining Co.	
La Barge, WY	350

Footnotes:

[1] Formerly Pester Refining Co.
[2] Formerly Mobile Bay Refining Co.
[3] Formerly Philbro Distributing Co.
[4] Formerly Charter Oil Co.
[5] Formerly International Processors
[6] Formerly Louisiana Land & Exploration Co.
[7] Formerly Linmar/Vt./Theo Davis
[8] Prior to 1987, listed in the Hawaiian Foreign Trade Zone
[9] Formerly Texaco Refining & Marketing Inc.
[10] Formerly Moore & Munger, Inc.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TOKHEIM CORPORATION
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Jasper, Tennessee 37347
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TOKHEIM
Tokheim Corporation

Changes in U.S. Refinery Capacity in 1986

On Jan. 1, 1987, the U.S. had a total of 219 operable refineries. There were five shutdowns in 1986 and 8 start-ups reflecting new or reactivated units for a net gain of three refineries during the year. Operable capacity was rated at 15.6 million b/d, virtually unchanged from the year-ago level. It would appear that the sharp declines of recent years have bottomed out and the industry is re-stabilizing itself. Since Jan. 1, 1981, crude oil distillation capacity has declined more than 3 million b/d while the refinery population has fallen from 324 units in 1981 to 219 at the beginning of 1987.

Refinery Shutdowns in 1986

Refinery	Location	b/cd Crude Distillation Capacity	b/sd Downstream Charge Capacity	Date Shutdown
Chevron U.S.A.	Bakersfield, CA	26,000	6,000	7/86
Chevron U.S.A.	Baltimore, MD	14,200	14,300	12/86
Chevron U.S.A.	Cincinnati, OH	43,700	40,200	8/86
Gladreux Refinery	Fort Wayne, IN	19,000	0	6/86
Petromax Refinery	Houston, TX	2,000	0	5/86

New and Reactivated Refineries in 1986

Refinery	Location	b/cd Crude Distillation Capacity	b/sd Downstream Charge Capacity	Status
Augusta Refinery	Augusta, KS	0	23,000	R
City Gas & Transmission Co.	Wilmington, NC	10,000	0	R
Hill Petroleum Co.	St. Rose, LA	32,000	20,000	R
Louisiana Oil & Refining Co.	Egan, LA	8,400	0	R
Petro Star	North Pole, AK	6,700	0	N
Powerine Oil Co.	Santa Fe Springs, CA	33,400	84,910	R
Warrior Asphalt Refining Co.	Holt, AL	5,000	0	R
Western Oil & Refining Co.	Long Beach, CA	19,200	0	R

R=Reactivated; N=New; b/cd=bbl. per calendar day; b/sd=bbl. per stream day

Refinery Sales in 1986

Former Owner	b/cd Crude Capacity	New Owner
ATC Petroleum, Wilmington, NC	10,000	City Gas & Transmission Corp.
Charter International Oil Co.	65,000	Hill Petroleum Co.
International Processors	32,000	Hill Petroleum Co.
Laketon Refining Corp.	8,700	Young Refining Corp.
Seagull Refining Co., Roosevelt, UT	8,000	Pennzoil Co.
Marlex Oil & Refining, Los Angeles, CA	19,200	Western Oil Refining
Mobil Oil Co., Augusta, KS	0	Williams Pipeline Co.
Mobile Bay Refining Co., Chickasaw, AL	26,600	Belcher Oil Co.
Montana Refining Co., Glen Falls, MT	6,300	Holly Corp.
Pester Refining Corp., El Dorado, KS	30,400	Derby Refining Corp.
Powenne Oil Co., Santa Fe Springs, CA	33,400	Sargent Holdings Ltd.
Southland Corp., Lake Charles, LA	320,000	Petroleos de Venezuela (50%)
Texaco Inc., El Paso, TX	21,600	El Paso Refining Co. Ltd.
Tosco Corp., Bakersfield, CA	38,800	Texaco, Inc.
Warrior Asphalt Co., Holt, AL	5,000	Warrior Asphalt Refining Corp.

Source: Energy Information Administration, Petroleum Supply Annual 1986, published in June, 1987.

U.S. Refinery Closings — 1981 through 1986

PAD District Refinery	Location	Crude Distillation Capacity (B/CD)	Total Downstream Capacity (B/SD)	Date of Last Operation	Date Shutdown	Years in Operation
District 1						
American Refinery Group	Indianola, Pa.	180	0	3/84	12/85	3
Amoco Oil Co.	Baltimore, Md.	15,000	0	1/82	3/82	25+
Ashland Oil, Inc.	Buffalo, N.Y.	64,000	106,500	7/82	12/84	36+
Ashland Oil, Inc.	Freedom, Pa.	6,800	3,600	4/85	12/85	37+
ATC Petroleum Inc.	Wilmington, N.C.	11,900	0	7/81	1/82	8
ATC Petroleum Inc.	Newington, N.H.	13,400	0	7/81	1/82	7
Chevron U.S.A.	Baltimore, Md.	14,200	14,300	12/86	12/86	NA
ELK Refining Co., div. of Pennzoil Co. Inc.	Falling Rock, W.Va.	5,600	2,000	12/82	1/83	25+
Manatee Energy Co.	Port Manatee, Fla.	28,400	0	5/81	10/81	2
Mobil Oil Corp.	Buffalo, N.Y.	43,000	67,000	5/81	7/81	25+
Quaker State Oil Refining Corp.	Emlenton, Pa.	0	2,980	12/83	12/83	25+
Total		202,480	196,380	—	—	—
District 2						
Allied Materials Corp.	Stroud, Okla.	7,600	2,500	12/84	2/85	37+
Amoco Oil Co.	Sugar Creek, Mo.	104,000	185,500	5/82	6/82	25+
Amoco Oil Co.	Wood River, Ill.	104,000	127,000	5/81	10/81	25+
Ashland Oil, Inc.	Findlay, Ohio	20,400	8,000	2/82	12/84	36+
Ashland Oil, Inc.	Louisville, Ky.	25,200	29,000	4/82	12/84	36+
B-T Energy Corp.	Louisville, Ky.	3,000	0	11/84	11/85	3
Champlin Petroleum Co.	Enid, Okla.	53,800	58,500	6/83	12/83	25+
Chevron U.S.A.	Cincinnati, Ohio	43,700	40,200	5/86	8/86	NA
Conoco Inc.	Wrenshall, Minn.	23,500	25,700	5/81	9/81	5
CRA, Inc.	Scottsbluff, Neb.	5,600	3,650	5/82	6/82	25+
Dillman Oil Recovery Inc.	Oblong, Ill.	1,200	0	1/81	2/82	4
Dow Chemical U.S.A.	Bay City, Mich.	20,000	0	5/80	9/81	25+
E-Z Serv Refining Inc.	Shallow Water, Kan.	9,500	0	4/81	2/82	25+
Energy Cooperative Inc.	East Chicago, Ind.	126,000	190,000	5/81	6/82	25+
Energy Development	Crossville, Ill.	1,000	0	2/81	4/81	22
Gladieux Refinery	Fort Wayne, Ind.	19,000	0	12/85	6/86	NA
Gulf Oil Corp.	Toledo, Ohio	50,300	61,800	6/81	11/81	25+
Hudson Refining Co. Inc.	Cushing, Okla.	19,000	12,150	12/82	11/83	6
Indiana Refining Inc.	Princeton, Ind.	5,000	0	12/80	2/81	23
Industrial Fuel and Asphalt of Indiana Inc.	Hammond, Ind.	7,600	0	12/81	6/82	25+
Mid-America Refining Co. Inc.	Chanute, Kan.	3,000	1,800	3/81	7/82	25+
Mobil Oil Corp.	Augusta, Kan.	50,000	83,900	9/83	9/83	25+
Northland Oil and Refining Co.	Dickinson, N.D.	5,000	0	2/81	2/82	7

PAD District Refinery	Location	Crude Distillation Capacity (B/CD)	Total Downstream Capacity (B/SD)	Date of Last Operation	Date Shutdown	Years in Operation
Oklahoma Refining Co.	Cyril, Okla.	12,750	23,100	12/84	12/84	36+
Oklahoma Refining Co.	Thomas, Okla.	11,600	0	12/84	12/84	4
Okmulgee Refining Co.	Okmulgee, Okla.	25,000	13,200	6/82	1/83	25+
Phillips Petroleum Co.	Kansas City, Kans.	80,000	156,700	8/82	9/82	25+
Texaco Inc.	Lockport, Ill.	72,000	136,000	4/81	10/81	25+
Texaco Refining & Marketing Co.	Lawrenceville, Ill.	79,000	134,000	4/85	12/85	37+
Texas American Petrochemical Inc.	West Branch, Mich.	11,500	3,200	9/81	2/82	25+
Tonkawa Refining Co.	Arnett, Okla.	12,000	6,000	1984	1984	16
Tosco Corp.	Duncan, Okla.	47,000	85,000	1984	1984	4
Wireback Oil Co.	Plymouth, Ill.	1,800	1,800	2/81	3/81	25+
Total		**1,048,450**	**1,388,700**	—	—	—
District 3						
Adobe Refining Co., div. of Funding Systems Refining Corp.	La Blanca, Texas	5,200	0	11/81	1/82	25+
Bayou State Oil Corp.	Hosston, La.	3,000	0	1/81	3/82	25+
Brio Refining Inc.	Friendswood, Texas	12,500	0	9/82	1/83	4
Bronco Refining Co.	Houston, Texas	2,250	0	4/81	7/82	1
Carbonit Refining Inc.	Hearne, Texas	11,000	0	2/81	1/82	6
Caribou-Four Corners, Inc.	Farmington, N.M.	2,200	2,400	1984	1984	19
Celeron Oil & Gas Co.	Mermentau, La.	11,000	0	1984	1984	6
Clinton Manges	Palestine, Texas	6,000	0	7/81	7/82	25+
Conoco, Inc.	Alvin, Texas	33,274	0	10/85	12/85	22
Copano Refining Co.	Ingleside, Texas	11,100	0	9/81	2/82	4
Damson Gas Processing Corp.	White Deer, Texas	0	1,000	9/81	2/82	4
Dorchester Refining Co.	Mt. Pleasant, Texas	26,500	38,800	1984	1984	6
Dow Chemical U.S.A.	Freeport, Texas	190,000	143,000	8/81	6/82	1
Eagle Refining Corp.	Jacksboro, Texas	1,800	0	3/81	7/82	1
Eddy Refining Co.	Houston, Texas	3,250	0	1984	1984	36+
Erickson Refining Corp.	Pt. Neches, Texas	30,000	0	12/81	8/83	4
Evangeline Refining Co.	Jennings, La.	4,500	0	12/82	1/83	25+
Flint Chemical Co.	San Antonio, Texas	1,600	0	1/85	3/85	23
GHR Energy Corp	Good Hope, La.	300,000	433,000	12/82	9/83	15
Giant Industries Inc.	Farmington, N.M.	13,500	5,000	5/82	11/82	7
Gulf Oil Corp.	Venice, La.	28,700	46,300	4/81	12/81	13
Hill Petroleum Co.	Knots Springs, Texas	57,400	62,000	1984	1984	7
Independent Refining Corp.	Winnie, Texas	50,000	63,000	10/81	8/83	23
Lake Charles Refining Co.	Lake Charles, La.	28,000	0	4/81	2/82	2
Listo Refining Co.	Donna, Texas	3,500	0	7/82	12/82	4
Longview Refining Co.	Longview, Texas	14,000	14,000	12/81	4/82	25+
Mallard Resources Inc.	Gueydan, La.	7,400	0	11/83	12/83	4
Marion Corp.	Theodore, Ala.	25,000	14,500	3/83	9/83	15
McTan Refining Corp.	St. James, La.	19,300	0	7/81	8/83	6
Mid-Gulf Energy Corp.	Ingleside, Texas	39,400	20,000	1984	1984	3
Natchez Refining Co.	Natchez, Miss.	16,000	0	6/82	9/82	2
Petraco-Valley Oil Refining Co.	Brownsville, Texas	12,300	0	3/83	12/83	5
Petromax Refining Co.	Houston, Texas	2,000	0	9/85	5/86	NA
Placid Oil Co.	Mont Belvieu, Texas	8,500	0	1/82	7/82	2
Port Petroleum Co.	Stonewall, La.	3,200	0	1984	1984	5
Quintana Petrochem Co.	Corpus Christi, Texas	33,000	54,000	1984	1984	30
Quitman Refining Co.	Quitman, Texas	6,600	0	4/82	6/82	4
Rio Grande Crude Refining	Brownsville, Texas	9,500	0	6/81	6/82	3
Rio Grande Recovery Systems Inc.	Brownsville, Texas	1,000	0	5/81	2/82	2
Schulze Processing Inc.	Tallulah, La.	1,760	0	5/81	8/82	4
Shepard Oil Co.	Jennings, La.	10,000	0	5/81	2/82	4
Shore, Inc.	Kilgore, Texas	550	0	3/83	7/83	3
Sooner Refining Co.	Darrow, La.	8,000	32,200	1/82	2/82	2
Southern Union Refining Co.	Monument, N.M.	5,400	0	1/81	10/81	25+
Southern Union Refining Co.	Lovington, N.M.	36,100	18,500	1984	1984	8
Southland Oil Co.	Yazoo City, Miss.	5,500	3,080	2/81	7/81	25+
T & S Refining Co.	Jennings, La.	10,500	0	7/81	3/82	2
Tesoro Petroleum Co.	Carrizo Springs, Texas	26,100	3,500	1984	1984	27
Texaco Refining & Marketing Co.	Amarillo, Texas	20,000	24,400	4/85	12/85	37+
Texas Refining Co.	Midland, Texas	2,500	0	4/81	6/81	1
Texas Standard Refining Inc.	Houston, Texas	1,800	0	1/81	10/81	(S)
Thriftway Oil Co.	Graham, Texas	1,184	0	4/81	11/83	25+
Tipperary Refining Co.	Ingleside, Texas	7,320	0	1/82	3/82	4
Tropicana Energy Co.	Fort Worth, Texas	4,650	0	12/83	1285	19
Vicksburg Energy Co.	Vicksburg, Miss.	6,000	0	1/85	9/85	7
Warrior Asphalt Co.	Holt, Ala.	5,500	2,000	1984	1984	30
Wickett Refining Co.	Wickett, Texas	8,000	0	1/76	2/82	25+
Total		**1,165,494**	**932,480**	—	—	—
District 4						
Caribou-Four Corners Inc.	Woods Cross, Utah	8,400	8,200	1984	1984	21
C & H Refinery Inc.	Lusk, Wyo.	180	0	1/81	2/82	25+
Gary Refining Corp.	Fruita, Colo.	15,200	27,100	2/85	10/85	4
Glacier Park Co.	Osage, Wyo.	10,000	0	2/81	3/82	4
Glenrock Refinery Inc.	Glenrock, Wyo.	6,000	0	4/81	9/81	5
Husky Oil Co.	Cody, Wyo.	11,500	17,800	6/82	9/82	25+
Kenco Refining	Wolf Point, Mont.	4,700	0	10/85	12/85	11
Morrison Petroleum Co.	Woods Cross, Utah	6,000	0	12/85	12/85	11
Sage Creek Refining Co.	Cowley, Wyo.	1,000	0	1/82	6/82	17
Southwestern Refining Co.	La Barge, Wyo.	1,040	0	4/81	8/81	7
Texaco Inc.	Casper, Wyo.	21,000	35,500	3/82	7/82	25+
Total		**85,020**	**88,600**	—	—	—
District 5						
Anchor Refining Co.	McKittrick, Calif.	9,000	7,000	11/82	2/84	6
Arizona Fuels Corp.	Fredonia, Ariz.	6,000	0	2/83	9/83	11
Chevron U.S.A.	Bakersfield, Calif.	26,999	6,000	4/86	7/86	NA
Coastal Petroleum Refiners	Bakersfield, Calif.	10,000	0	6/85	12/85	6
Demenno-Kerdoon	Compton, Calif.	10,000	2,000	1/83	8/83	6
ECO Petroleum Inc.	Long Beach, Calif.	0	7,000	1984	1984	8
Golden Eagle Refining Co.	Carson, Calif.	16,170	0	11/84	2/85	37+
Marlex Oil & Refining Co.	Los Angeles, Calif.	21,100	0	1984	1984	7
Powerine Oil Co.	Santa Fe Springs, Calif.	44,120	100,100	1984	1984	34
Quad Refining Corp.	Bakersfield, Calif.	7,000	0	8/80	10/81	2
Road Oil Sales Inc.	Bakersfield, Calif.	6,000	0	1/81	1/82	9
Tosco Corp.	Bakersfield, Calif.	38,800	80,000	1984	1984	33
United Independent Oil Co.	Tacoma, Wash.	730	0	7/80	3/82	7
U.S.A. Petroleum Corp.	Ventura, Calif.	24,000	7,000	12/84	12/84	7
Total		**192,920**	**203,100**	—	—	—
U.S. Total		**2,645,463**	**2,760,760**	—	—	—

Source: Energy Information Administration, Petroleum Supply Annual 1986, published June 1987.

Shell and Working Storage Capacities—1986

Shell Capacity (Add 000 bbl.) (a)

		Gasoline			Fuel Oil				
	Crude Oil	Finished Leaded	Finished Unleaded	Blending Components	Middle Distillates	Residual Fuel Oil	Asphalt and Road Oil	Total Products(b)	Total Crude Oil and Products
PAD District 1 Total	**27,420**	**4,749**	**15,887**	**13,654**	**22,955**	**10,408**	**5,261**	**100,465**	**127,885**
New Jersey	9,644	1,966	7,555	7,526	11,543	6,003	2,008	49,273	58,917
Pennsylvania	11,491	1,636	3,287	2,987	5,537	2,978	1,253	28,456	39,947
Other States(c)	6,285	1,147	5,045	3,141	5,875	1,427	2,000	22,736	29,021
PAD District 2 Total	**27,921**	**14,158**	**16,712**	**19,464**	**28,896**	**8,027**	**12,888**	**113,063**	**159,875**
Illinois	7,625	3,416	4,212	5,169	7,293	1,784	2,060	40,457	48,082
Indiana	3,439	1,836	2,763	4,410	5,053	2,542	2,513	28,164	31,603
Kansas	3,164	2,477	2,630	1,679	3,666	597	1,162	19,975	23,139
Kentucky	1,375	266	550	395	614	398	738	5,908	7,283
Michigan	1,056	476	581	426	1,615	637	949	8,022	9,078
Ohio	2,650	858	1,804	2,486	2,160	434	913	13,690	16,340
Oklahoma	4,503	2,447	2,286	2,821	4,456	567	1,494	22,792	27,295
Other States(c)	4,109	2,382	1,886	2,078	4,039	1,068	3,059	16,490	20,599
PAD District 3 Total	**98,809**	**15,375**	**28,144**	**39,001**	**45,561**	**24,333**	**7,469**	**319,502**	**418,311**
Alabama	2,619	304	393	678	737	976	610	4,676	7,295
Arkansas	1,568	116	166	148	704	97	711	2,142	3,710
Louisiana	28,552	2,593	7,080	12,022	17,271	8,762	1,513	90,908	119,460
Mississippi	4,219	750	1,354	1,874	3,189	636	1,230	10,693	14,912
New Mexico	976	252	211	647	651	141	540	3,640	4,616
Texas	60,875	11,360	18,940	23,632	23,009	13,721	2,865	207,443	268,318
PAD District 4 Total	**4,562**	**3,095**	**2,076**	**4,783**	**4,843**	**1,628**	**4,638**	**27,016**	**31,578**
Colorado	542	486	229	659	616	443	581	3,984	4,526
Montana	1,444	788	561	1,650	1,467	239	1,638	8,401	9,845
Utah	1,448	649	564	1,084	1,105	481	254	5,269	6,717
Wyoming	1,128	1..172	722	1,390	1,655	465	2,165	9,362	10,490
PAD District 5 Total	**46,812**	**5,217**	**11,059**	**18,888**	**13,197**	**16,999**	**3,771**	**113,063**	**159,875**
Alaska	1,103	86	251	395	689	1,173	69	3,608	4,711
California	33,228	3,737	9,122	15,215	9,584	13,060	2,766	89,586	122,814
Washington	8,344	1,304	1,555	2,587	2,332	1,446	338	14,960	23,304
Other states(c)	4,137	90	131	691	592	1,320	598	4,909	9,046
U.S. Total	**205,524**	**42,594**	**73,878**	**95,790**	**115,452**	**61,395**	**34,027**	**715,544**	**921,068(d)**

Working Storage Capacity (Add 000 bbl.) (a)

		Gasoline			Fuel Oil				
	Crude Oil	Finished Leaded	Finished Unleaded	Blending Components	Middle Distillates	Residual Fuel Oil	Asphalt and Road Oil	Total Products(b)	Total Crude Oil and Products
PAD District 1 Total	**23,631**	**4,232**	**14,288**	**11,566**	**20,651**	**9,471**	**4,661**	**89,528**	**113,159**
New Jersey	8,161	1,741	6,641	6,247	10,442	5,533	1,698	43,388	51,549
Pennsylvania	10,160	1,462	2,935	2,645	5,087	2,682	1,077	25,888	36,048
Other States(c)	5,310	1,029	4,712	2,674	5,122	1,256	1,886	20,252	25,562
PAD District 2 Total	**24,596**	**12,779**	**14,760**	**17,111**	**26,585**	**7,455**	**11,889**	**140,676**	**165,272**
Illinois	6,431	2,870	3,490	4,379	6,672	1,655	1,932	35,976	42,407
Indiana	2,957	1,659	2,406	3,767	4,570	2,342	2,304	24,941	27,898
Kansas	2,902	2,333	2,383	1,470	3,382	541	1,041	18,269	21,171
Kentucky	1,307	255	523	371	583	379	701	5,608	6,915
Michigan	982	444	546	391	1,533	608	907	7,457	8,439
Ohio	2,379	790	1,667	2,217	2,020	407	849	12,554	14,933
Oklahoma	3,955	2,223	2,071	2,693	4,128	527	1,305	20,835	24,790
Other States(c)	3,683	2,205	1,674	1,823	3,697	996	2,850	15,036	18,719
PAD District 3 Total	**83,711**	**13,353**	**24,658**	**33,380**	**40,152**	**21,728**	**6,608**	**279,984**	**363,695**
Alabama	2,271	251	338	584	617	821	486	3,941	6,212
Arkansas	1,413	104	149	138	652	86	644	1,954	3,367
Louisiana	23,495	2,189	5,996	9,712	14,716	7,938	1,253	78,291	101,786
Mississippi	3,763	675	1,238	1,762	2,946	584	1,093	9,786	13,549
New Mexico	852	213	174	587	576	126	518	3,267	4,119
Texas	51,917	9,921	16,763	20,597	20,645	12,173	2,614	182,745	234,662
PAD District 4 Total	**4,107**	**2,779**	**1,841**	**4,308**	**4,519**	**1,534**	**4,367**	**24,760**	**28,867**
Colorado	485	453	209	614	592	419	563	3,751	4,236
Montana	1,248	700	494	1,481	1,377	222	1,524	7,714	8,962
Utah	1,314	557	479	948	1,010	450	230	4,689	6,003
Wyoming	1,060	1,069	659	1,265	1,540	443	2,050	8,606	9,666
PAD District 5 Total	**40,702**	**4,521**	**9,461**	**16,521**	**11,908**	**15,362**	**3,536**	**99,890**	**140,592**
Alaska	1,037	81	237	374	655	1,124	66	3,430	4,467
California	28,505	3,164	7,722	13,220	8,564	11,659	2,573	78,573	107,078
Washington	7,354	1,192	1,381	2,279	2,133	1,328	327	13,265	20,619
Other states(c)	3,806	84	121	648	556	1,251	570	4,622	8,428
U.S. Total	**176,747**	**37,664**	**65,008**	**82,886**	**103,815**	**55,550**	**31,061**	**634,838**	**811,585(e)**

(a) Shell capacity is the design capacity of a tank; working capacity is the difference between the maximum safe fill capacity and tank bottoms; (b) Total products include ethane, isobutane, pentanes plus other hydrocarbons, hydrogen, alcohol, unfinished oils, finished aviation gasoline, special naphthas, coke, wax, still gas, petrochemical feedstocks, and miscellaneous products; (c) Other states include: PAD 1—Connecticut, Delaware, Florida, Georgia, Maryland, New York, North Carolina, Virginia and West Virginia; PAD 2—Minnesota, Missouri, North Dakota, Tennessee and Wisconsin; PAD 5—Hawaii, Nevada and Oregon; (d) Includes 42.5-million bbl. at shutdown refineries and 33.5-million bbl. at gasoline blending plants; (e) Includes 38.4-million bbl. at shutdown refineries, and 31.1-million bbl. at gasoline blending plants.

Source: Energy Information Administration, Petroleum Supply Annual 1986, published in June 1987.

U.S. REFINING CAPACITY 1977-1987

(in thousands of b/d)

/—OPERABLE REFINERIES—\

(As of Jan. 1 of each year)

Year	No. of Refs.	Chng. from Prec. Year	Operable Capacity	Chng. from Prec. Year
1987	219	+3	15,566	+107
1986	216	-7	15,459	-200
1985	223	-24	15,659	-478
1984	247	-11	16,137	-722
1983	258	-43	16,859	-1,030
1982	301	-23	17,890	-731
1981	324	+5	18,621	+632
1980	319	+8	17,989	+547
1979	311	+9	17,441	+393
1978	302	+11	17,048	+650
1977	291	+4	16,398	+1,162

Source: Energy Information Administration, Petroleum Supply Annual 1986, plus industry sources for supplemental data.

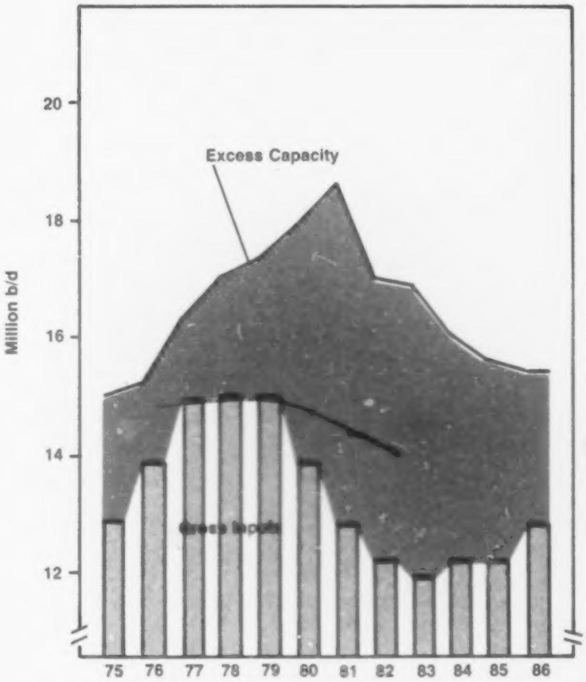
/—INPUTS AND UTILIZATION—\

(Avg. for calendar year)

Year	Gross Input	Percent Utilized	Percent Idle	Excess Volume
1986	12,826	83.0%	17.0%	2,633
1985	12,165	77.6	22.6	3,494
1984	12,216	76.2	23.8	3,921
1983	11,947	71.7	28.3	4,912
1982	12,172	69.8	30.2	5,718
1981	12,751	68.5	31.5	5,870
1980	13,834	76.9	23.1	4,153
1979	14,955	85.7	14.3	2,486
1978	15,071	88.4	11.6	1,977
1977	14,982	91.4	8.6	1,416

Source: See above footnote.

Gross Inputs and Excess Capacity



Source: Energy Information Administration and NPN.

Refinery Slump Bottoms Out in 1986

For the first time since it went into a tailspin in 1981, the domestic refining industry appears to have reached a turning point in 1986, according to the Energy Information Administration.

Whether this is an honest-to-goodness reversal of the long slide of recent years or simply an aberration remains to be seen. Some people in the industry think there's still about 1-million b/d too much in reserve in light of declining consumption and long-term projections.

Refinery closings in 1986 were few and far between. EIA says there were five shut downs in 1986, seven reactivations and one new refinery for a net gain of three. That's only a small gain but again it was the first plus sign since January, 1981. In the last six years, the industry closed, dismantled or mothballed more than 100 refineries. One result was that operable capacity plummeted from a peak of 18.6-million b/d day on Jan. 1, 1981 to 15.5-million b/d on Jan. 1, 1986 —a loss of 3.1-million b/d.

EIA says the domestic industry now has a total of 219 refineries with an operable capacity of 15.6-million b/d. Whether this number goes up or down in 1987 depends entirely on how many units and how much capacity may be reactivated this year. One thing is certain: New construction is just about non-existent.

Refinery utilization rose significantly in 1986, reducing the dimensions of the excess capacity albatross that has been on the industry's shoulders in recent years. Industry utilization hit 83% in 1986, up a spanking 5.4% for the best one-year increase in 35 years. In terms of volume, the excess capacity gap is now 2.6-million b/d versus the nightmare of 1981 when it exceeded 5.9-million b/d and precipitated the most shocking wave of cutbacks, showdowns and dismantlings in the industry's history.

There are two things to be said about the 83% utilization level. Since most refineries are designed to run in an 88% to 93% area for optimum efficiency and economics, this means that the average is moving in the right direction for them and their profitability. But it also means that at the 91% to 93% level the industry hasn't much flexibility left in its operable capacity reserve to maneuver and/or manipulate to respond to unexpected demand surges or problems.

Refinery yields remained relatively stable in 1986, EIA says. Motor gasoline yields averaged 45.7% last year compared with the recent "peak" of 47.4% in 1983. Distillate yields averaged 21.2% in 1986 compared with 21.6% the year earlier. Residual, which dropped sharply in the early '80s, ran approximately 6.7% in 1986.

These yield averages should be taken with a grain of salt, however. They can be tilted upwards or depressed downwards depending upon product demand. Some refineries, too, are designed for maximum gasoline output at levels that make the so-called average yields pale in comparison.

C4680-1
7/12/88

July 1988

$6.00

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NPN

National Petroleum News

How Industry Views Impending Underground Tank Regs

NATIONAL PETROLEUM NEWS
Established in 1909

VOL. 80 NO. 8

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Editor's Viewpoint

Back in 1985, the Puerto Rico Department of Consumer Affairs tried to establish price controls on motor fuels and an independent marketer, Isla Petroleum Corp., refused to roll over and play dead. It took the issue to the federal district court in Puerto Rico, which ruled in Isla's favor that the Puerto Rican government could not set prices. A Temporary Emergency Court of Appeals upheld the decision.

But bureaucrats don't give up easily either. They took the case to the U.S. Supreme Court—and won. The court ruled that in the absence of federal controls, states could regulate gasoline prices and supply allocations and impose similar controls on other petroleum products.

A lot of people will shake their heads—and their fists—at the Supreme Court. But the Court isn't the real problem here. I can't speculate on the reasoning of the Court, the logic and legalities involved. But supply and demand and free market pricing and economics obviously weren't a part of it. And that's just as well. The Court is supposed to judge based constitutional considerations, not economics.

The real danger is in the state legislatures. This is where industry attention has to be focused now. The Court said states could impose controls; it didn't say they had to. State associations will need strong marketer support because they'll have to monitor and mobilize quickly at the first sign of legislative activity on controls.

And there will almost surely be such activity. A dozen states reportedly filed friend of the court legal briefs in the Supreme Court case in favor of the right to establish controls. There are no doubt a lot of state legislators kicking up their heels and sharpening their pencils and dragging out the same tired old arguments about greedy businessmen raping the public with unnecessarily high prices and lining their pockets with "obscene" profits.

Most industry sources believe that if states do enact price controls it will mean chaos and marketers will feel the impact. But it probably won't last long because these states will face the verdict of another court—the millions of consumers and the businessmen who serve them. How long before marketers and suppliers begin pulling out of the states that determine what prices and profit margins should be? And then the state lawmakers will have to deal with voters who have seen their sources—and choices—of supply sharply curtailed.

—Frank M. Victoria

National Petroleum News (NPN) (ISSN 0149-5267) is published monthly by Hunter Publishing Co., Inc., 950 Lee Street, Des Plaines, Illinois 60016. (312) 296-0770.

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience-store items. Position, company and segment of industry must be indicated on subscription orders.

Basic **subscription rates** for one year to individuals in the petroleum marketing industry are: U.S. $54, Canada $63 (U.S. $), Foreign surface mail $69 (U.S. $), Foreign airmail $104 (U.S. $). Non-industry personnel rates for one year are: U.S. $69, Canada $78 (U.S. $), Foreign surface mail $84 (U.S. $), Foreign airmail $128 (U.S. $). **Single copy price**: U.S. & Canada $8.00 (includes first class postage). Foreign $10.00 (includes airmail postage). **Mid-June Factbook**: U.S. $50, Canada $60, Foreign $70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. **Change of address**: Notices should be sent promptly, provide old mailing label as well as new address, include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (312) 296-0770, 9 a.m. to 4 p.m.

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As the Environmental Protection Agency gets ready to issue its long awaited underground tank regs, the mood of petroleum marketers is calm, almost complacent. But that could change. **Page 40**

If there's one thing that has jobbers anxious about the forthcoming EPA tank regs, it's the liability factor, particularly the $1-million per incident coverage requirement. EPA says it might phase in implementation to ease the pain, but jobbers worry about the long run. **Page 46**

Changes in the fire codes are opening the way to unattended self-serve fueling to the public. But retail cardlocks won't pop up overnight, experts say. **Page 52**

Short-Term Outlook; Cloudy/Bright

The short-term energy outlook for the balance of 1988 and throughout next year is neither exciting nor depressing. Federal government forecasters say gasoline and distillate demand should continue to inch upwards in both years while prices dip in 1988 and recover modestly by the end of 1989.

An item of note is that consumption of leaded gasoline will decline to less than 1-million b/d by the fourth quarter of 1989. It will then represent only 12.2% of the nation's gasoline consumption. This decline is expected to continue in 1990, probably sliding below the 10% level. For the full years of 1988 and 1989, however, leaded gasoline consumption is expected to average 1.5-million b/d this year and 1.1-million b/d next.

The Energy Information Administration, which makes the quarterly forecasts for the government, said crude oil prices are expected to stay within a range of from $15 to $18 bbl. in 1988 and 1989, which is about $1 bbl. to $2 bbl. less than the EIA had projected earlier this year [*NPN*—April '88, p25].

Expanding demand and falling domestic production will probably lead to an increase of 11% (about 490,000 b/d) in crude oil imports to an average of 5.1-million b/d this year and about 6.3% more in 1989, EIA said.

Gasoline margins are expected to average about 12¢ a gal. this year, a little less than last year. Next year they're expected to run around 14¢ a gal., which would be about the same as in 1987, EIA said.

What's Ahead; Turtle-Like Improvements Continue

PROJECTIONS

	1988		1989			
DEMAND (million b/d)	3Q	4Q	1Q	2Q	3Q	4Q
Motor Gasoline	7.45	7.34	6.99	7.52	7.52	7.45
Leaded	1.50	1.41	1.28	1.17	1.04	0.95
Unleaded	5.95	5.93	5.70	6.35	6.49	6.50
% Unleaded	80%	80%	82%	84%	86%	87%
Distillates	2.70	3.16	3.41	2.89	2.74	3.20
Residual	1.10	1.14	1.44	1.12	1.08	1.14
Total U.S. (a)	16.59	17.10	17.12	16.64	16.80	17.41
PRICES (¢ per gal.) (b)						
Motor Gasoline (c)	0.90	0.92	0.94	0.97	1.00	0.98
No. 2 Diesel Oil	.87	.88	.91	.94	.95	.95
No. 2 Heating Oil						
Wholesale	.48	.53	.55	.54	.52	.55
Retail	.74	.82	.85	.81	.78	.83
Residual (d)	.36	.40	.43	.41	.40	.43

ANNUALIZED COMPARISON

DEMAND (million b/d)	1987	1988	1989	% Chng. 87/86	% Chng. 88/87	% Chng. 89/88
Motor Gasoline	7.18	7.29	7.37	1.8%	1.5%	1.1%
Leaded	1.74	1.46	1.11	(20.6)	(16.0)	(31.5)
Unleaded	5.45	5.83	6.26	12.0	7.0	7.4
% Unleaded	76%	80%	85%	—	—	—
Distillates	2.96	3.04	3.06	1.7	2.7	0.7
Residual	1.15	1.22	1.19	(12.0)	(2.4)	(2.5)
Total U.S. (a)	16.55	16.85	16.99	1.5	1.8	0.8
PRICES (¢ per gal.) (b)						
Motor Gasoline (c)	0.96	0.91	0.97	3.2	(5.2)	6.6
No. 2 Diesel Oil	.92	.89	.94	4.5	(3.3)	5.6
No. 2 Heating Oil						
Wholesale	.53	.50	.54	6.1	(5.7)	8.0
Retail	.80	.80	.82	(4.8)	0.0	2.5
Residual (d)	.42	.37	.42	23.6	(12.1)	11.1

(a) Includes all other oils; (b) Includes federal and state taxes on all products except No. 2 heating oil, which is not taxed; (c) Average for all grades and services (d) Average for all grades of sulfur.

Source: Energy Information Administration, Short-Term Energy Outlook, dated April 1988, published in May.

• TRENDS

Billions For Marketing — But Is Spending Flagging?

U.S. oil companies are still pouring billions of dollars into oil marketing facilities—record-breaking amounts, in fact—but the latest forecast by McGraw-Hill's Data Research subsidiary indicates that the fervor to do so may be cooling off a bit.

It's all in the way that the statistics are read and evaluated. This year, for example, oil companies are scheduled to spend $4.7-billion in marketing expansion. That's wonderful and all that, but it's $146-million less than had been projected only six or seven months ago. This means that instead of going up 11.6% in 1988, the increase will be only 8.3%.

The 1989 forecast is essentially the same as last winter's—$4.8-billion—although the percentage factor is changed from a minus to a plus. The new 1989 forecast calls for a 1.7% increase in spending. Here again, this doesn't sound too bad, especially since the previous forecast suggested there would be a decrease of 1.3% in next year's outlays. But actually there's no increase in the amount of money budgeted for marketing facilities in 1989; it's just that the 1988 figures were deflated and this makes the 1989 numbers appear somewhat rosier than they really are.

There's no question that marketing continues to ride the high, however. The recently released new study confirms again that oil companies are spending—or are scheduled to spend—almost $14-billion to improve and expand marketing facilities from 1987 through 1989. Interestingly, so few companies offered projections on 1990 that Data Research Institute says there weren't enough to make forecasts. Is there a slowdown message in this too? In past years, refiners weren't hesitant to use crystal balls and tarot cards to look ahead—even to the year 2000. Or, as some economists have speculated, there are so many intangibles in the OPEC scenarios in 1989 and 1990 that even an Ouiji Board couldn't come up with answers.

Marketing wasn't the only division in which oil company masterminds refused to make 1990 projections. The "insufficient data" rule-of-thumb killed off 1990 forecasts for transportation, petrochemicals, auxiliary activities like coal mining and diversification interests, and even the totals for the U.S. as a whole.

For all of petroleum's capital spending in 1988 and 1989, the outlook is brighter—but not overwhelmingly so. For example, 1987 was only slightly ahead of 1986, which was a very bad year for budget-cutting and retrenchment. This year is estimated to be about 12% better than 1987, and 1989, another 6% greater than 1988. But for 1989, the capital dollars are estimated at $41-billion. Not too many years ago, oil spent that and then some on exploration and production alone.

Following are the projected expenditures for marketing, exploration and development, and refining. Figures for transportation, petrochemicals and "other" spending are included in NPN's Factbook.

Year	Projections	% Change
	MARKETING	
1990 Planned	(Insuff. Data)	—
1989 Planned	$4,794	+ 1.7%
1988 Estimated	4,712	+ 8.3
1987 Actual	4,352	+23.4
1986 Actual	3,526	− 3.8
	TRANSPORTATION	
1990 Planned	(Insuff. Data)	
1989 Planned	2,340	− 8.8
1988 Estimated	2,565	+42.1
1987 Actual	1,805	−52.7
1986 Actual	3,815	+ 0.5
	REFINING	
1990 Planned	2,562	+ 0.3
1989 Planned	2,553	+ 6.7
1988 Estimated	2,393	+15.1
1987 Actual	2,079	−16.1
1986 Actual	2,478	−26.6
	U.S. TOTAL	
1990 Planned	(Insuff. Data)	
1989 Planned	41,231	+ 6.0
1988 Estimated	38,905	+12.1
1987 Actual	34,716	+ 0.5
1986 Actual	34,529	−29.9

Source: Data Research, Inc., McGraw-Hill, Inc., 37th Survey of Preliminary Plans for New Plants and Equipment, published in June, 1988.

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

APRIL	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$0.946	$0.883	$0.930	$1.088
Regions:				
Northeast	.964	.876	.929	1.100
North Central	.943	.897	.937	1.090
South	.936	.864	.916	1.074
West	.947	.896	.942	1.096

Source: U.S. Dept. of Labor, Bureau of Labor Statistics

STOCKS (Add 000 bbl.)

	5/27/88	5/29/88
Gasoline (total)	225,581	231,427
Gasoline (unleaded)*	143,998	134,777
Jet Kerosine	38,326	39,391
Distillates	99,313	99,111
Residual	42,928	40.724

**Included in gasoline total*
Source: American Petroleum Institute

NPN

NATIONAL PETROLEUM NEWS JULY 1988

First Quarter Profits: Up, Up, Up vs. Weak '87

Bolstered by healthy downstream turnarounds, first-quarter earnings for most oil companies were manna from heaven compared to the traumatic price reversals of first-quarter 1987.

Shell had a spectacular showing, a $1.2-billion first quarter compared with a net of $108-million in the like-period of last year.

Ashland Oil's increase also just about moved right off the charts, leaping from $1-million in the first quarter of last year to $21-million in the first quarter of this year—a whopping 2,000% jump.

Three-fourths of Shell's increase was credited to an accounting change, however. Setting this one-time increase aside, nevertheless, Shell's first-quarter profit was still in the neighborhood of $345-million—triple that of last year and not a bad neighborhood to be in, regardless.

Phillips had a significant return to profitability—$130-million versus a loss of $32-million last year.

As the accompanying chart shows, Unocal also made a very respectable showing, with a 188% increase (from $60.7-million in the first quarter of last year to $174.8-million in this year's first quarter). Also posting gains of 100% or more were: Tenneco (117.2%), Conoco (101.2%), Texaco (105.1%) and Mobil (100%). The biggest losses were posted by Murphy Oil (308%) and Diamond Shamrock (278%).

The chart shows how sizeable these downstream earnings of the oil companies were and gives a pretty good indication of how greatly they contributed to the sharp recovery of corporate earnings. Immediately noticeable, for instance, is that none of the companies with figures available registered a loss downstream.

And the gains in earnings which were posted by some of the companies were dramatic. At the top of the list was Texaco, with an impressive 2,483% jump, from $6-million in the first quarter of 1987 to $153-million in the first quarter of this year.

Shell's performance was nothing to sneeze at either. The company's downstream operations in the first quarter of this year brought in earnings of $130-million compared to $8-million in the same period last year—a 1,525% increase. Exxon came in third, rising from a much larger base of $36-million in the first quarter of 1987 to $431-million in the first quarter of 1988, a 1,097.2% increase.

Corporate Earnings

(Millions of dollars)

	1 Qtr. 1988	1 Qtr. 1987	% Chng.
Exxon	$1,455.0	$1,070.0	36.0%
Mobil	505.0	252.0	100.0
Texaco	242.0	118.0	105.1
Chevron	653.0	361.0	80.9
Shell	1,245.0	108.0	1052.8
Amoco	469.0	260.0	80.4
Arco	401.0	239.0	67.8
Tenneco*	63.0	29.0	117.2
BP-America	NA	NA	—
Conoco	171.0	85.0	101.2
Phillips	130.0	(32.0)	—
Sun	60.0	38.0	57.9
Unocal	174.8	60.7	188.0
Marathon**	84.0	115.0	(27.0)
Coastal	46.5	44.1	5.4
Amerada Hess	65.6	181.5	(63.9)
Ashland***	21.0	1.0	2000.0
Diamond Shamrock	(4.8)	2.7	(278)
Pennzoil	20.7	12.1	71.1
Kerr-McGee	10.3	20.2	(49.0)
Murphy	(6.4)	3.1	(308)
American Petrofina	30.4	19.8	53.5
Citgo	41.9	25.0	68.0
Getty	NA	NA	—

*Includes Tenneco Oil; **Operating income, not net; ***Second quarter, fiscal ends 9/30; NA = Not available.

Downstream Earnings

(Millions of dollars)

	1 Qtr. 1988	1 Qtr. 1987	% Chng.
Exxon	$431	$36	1097.2%
Domestic	94	(38)	—
Foreign	337	74	335.4
Mobil	217	78	178.2
Domestic	101	2	495.0
Foreign	116	76	52.6
Texaco	153	6	2483.0
Domestic	92	(55)	—
Foreign	61	61	0.0
Chevron	199	(14)	—
Domestic	134	(46)	—
Foreign	65	32	103.6
Shell	130	8	1525.0
Amoco (worldwide)	169	(5)	—
Arco	87	25	248.0
BP-America	NA	NA	—
Conoco	77	40	92.5
Phillips*	74	30	146.7
Sun	40	(12)	—

*Pre-tax operating income.

Hess and Chevron Top Crude And Product Importers in '87

Amerada Hess, New York-based refiner-marketer, and Chevron U.S.A., the nation's third largest oil company, were the biggest importers of crude oil and products in 1987, says the government's Energy Information Administration.

For Chevron, it was a repeat performance as the biggest importer of crude oil alone and crude oil and products combined. For Hess, it also was a repeat performance in distillates, resid and jet fuel. Hess also displaced Northville Industries, Melville, N.Y., as the biggest gasoline importer in the land.

Most of the importers are marketers but there are a number of brokers-traders in the lists also.

Here are the totals for 1987, as compiled by EIA in mid-May:

Top 10 Importers of Crude and Product

Company	Headquarters	Volume (000 b/d)	% of U.S. Total
	CRUDE OIL AND PRODUCT		
Chevron	San Francisco	628	9.65%
Texaco	White Plains, N.Y.	461	7.08
Amerada Hess	New York	299	4.60
Shell	Houston, Tex.	287	4.41
Exxon	Houston, Tex.	280	4.30
Amoco	Chicago	271	4.16
Sun	Philadelphia	244	3.75
Standard Oil	Cleveland	232	3.56
Coastal Corp.	Houston, Tex.	229	3.52
Mobil	New York	229	3.52
Total Top 10		3,160	48.55
Total U.S.		6,509	
	CRUDE OIL ONLY		
Chevron	San Francisco	596	12.85
Texaco	White Plains, N.Y.	414	8.92
Shell	Houston, Tex.	269	5.80
Amoco	Chicago	258	5.56
Standard Oil	Cleveland	231	4.98
Exxon	Houston, Tex.	200	4.31
Mobil	New York	198	4.27
U.S. Steel	Pittsburgh, Pa.	189	4.07
Citgo	Tulsa, Okla.	179	3.86
Sun	Philadelphia	179	3.86
Total Top 10		2,713	58.48
Total U.S.		4,639	
	FINISHED MOTOR GASOLINE		
Amerada Hess	New York	42	9.84
Clarendon Mktg.	Stamford, Conn.	37	8.67
Vitol S.A.	Coral Gables, Fla.	32	7.49
Northville Indus.	Melville, N.Y.	31	7.26
Getty Petro	Jericho, N.Y.	26	6.09
Coastal Corp.	Houston, Tex.	25	5.85
Mobil	New York	23	5.39
Langham-Hill	Charlottesville, Va.	19	4.45
Bear Stearns	New York	16	3.75
Texaco	White Plains, N.Y.	15	3.51
Total Top 10		266	62.30
Total U.S.		427	

Source: Energy Information Administration, Petroleum Supply Monthly.

Company	Headquarters	Volume (000 b/d)	% of U.S. Total
	DISTILLATES		
Amerada Hess	New York	51	21.25
Global Petro.	Waltham, Mass.	26	10.83
Clarendon Mktg.	Stamford, Conn.	14	5.83
Wyatt Inc.	New Haven, Conn.	14	5.83
Charter Oil	Jacksonville, Fla.	12	5.00
Northville Indus.	Melville, N.Y.	12	5.00
Transworld Oil	Houston, Tex.	10	4.17
George Warren	New York	10	4.17
Astroline	Long Beach, Calif.	8	3.33
Vitol S.A.	Coral Gables, Fla.	8	3.33
Total Top 10		165	68.75
Total U.S.		240	
	RESIDUAL		
Amerada Hess	New York	121	21.88
Coastal Corp.	Houston, Tex.	76	13.74
Clarendon Mktg.	Stamford, Conn.	45	8.14
Sun	Philadelphia	33	5.97
Charter Oil	Jacksonville, Fla.	28	5.06
BP/Nor. America	New York	27	4.88
Scallop Petro.	New York	25	4.52
Clark Oil Trdg.	St. Louis, Mo.	20	3.62
Chevron	San Francisco	19	3.44
Carey Energy	New York	13	2.35
Total Top 10		407	73.60
Total U.S.		553	
	JET FUELS		
Amerada Hess	New York	13	37.14
Texaco	White Plains, N.Y.	7	20.00
Mobil	New York	6	17.14
Western Petro.	Los Angeles	3	8.57
Defense Fuel Sup. Ctr.	Washington, D.C.	2	5.71
Chevron	San Francisco	1	2.86
Pacific Fuel Trdg.	Los Angeles	1	2.86
PanAm World A'ways	New York	1	2.86
Shell	Houston, Tex.	1	2.86
Astroline	Long Beach, Calif.	*	*
Total Top 10		35	100.0
Total U.S.		35	

*Less than 1,000 b/d.

Shell Fire Effects Quantum Chem Supply

Quantum Chemical Corp. announced that the Shell Oil Co. Norco, La., plant explosion and fire will have adverse effects on its ethylene production at its Gulf Coast petrochemical facilities because Shell supplies its ethylene.

Shell Oil Co. says it will take at least one year to rebuild its Louisiana plant and could take as long as 18 months before the entire refinery is ready to operate. The suspension of olefin and polypropane production will have negative effects on the company's petrochemical division, says Shell.

Because of the cutbacks, Quantum has been informed that Shell's ethylene customers will be put on allocation for an undetermined time, reducing Quantum's Gulf Coast supply. The allocation will result in a 20% reduction in the availability of Quantum's ethylene-derived products, says Quantum.

Demand for Quantum's major ethylene-based products, polyethylene and vinyl acetate monomer, has been strong and the company is evaluating what effects the cutbacks will have on the overall production and its marketing position.

The company notes that it has business interruption insurance which it believes will reimburse it for lost profits because of the supply cutback.

In addition to the Gulf Coast facilities where it purchases ethylene, Quantum has petrochemical plants in the Midwest producing about 2.2 billion pounds of ethylene per year.

(Continued from page 32)

carry the company's costs. Lindsay Holland said that recently, the fleet fueling firm was averaging between $300,000 and $400,000 each month in losses.

Rising phone rates, the plunge in gasoline prices in 1986, extravagant offices and even lawsuits were among the factors that drove the La Jolla, Calif.-based company to bail out at the end of April, said Lindsay Holland of Barney Holland Oil, Ft. Worth, Texas. Holland is one of five jobbers who are now attempting to steer the company back on track.

The other four jobber licensees involved are Keith Moore of West Texas Gas in Midland, Texas; Larry Bull of Herkimer Petroleum Products, Inc. in Utica, N.Y.; Stephen Draizin of RAD Oil Co., Inc. in New Rochelle, N.Y.; and Stewart Spinks of Spinx Oil Co. in Greenville, S.C.

Together, the five jobbers formed a company called GCF, Inc., which loaned Gascard a little under $400,000 initially and expects to kick in another $200,000 before bankruptcy proceedings close, Holland said. Optimistic estimates put the closing sometime in early fall, he added.

Under Chapter 11, Gascard hopes to provide for payment in full of all secured claims, partial payment for unsecured claims and partial retention of the present stockholders equity interest.

Several lawsuits, mostly filed by jobber licensees against Gascard, must also be reckoned with, Holland said. Two lawsuits have been settled for about $80,000 with an additional half dozen or so filed, he said. These lawsuits and the potential for more was another reason Gascard decided to file, he added.

Deceptive selling and disputes about fees that are charged to fleet clients were some of the complaints leveled by jobbers in the past against Gascard [*NPN*—Oct. '86, p52].

With its proposed plan, GCF and "other investors" will invest an additional $2-million in exchange for issuance of new common stock in Gascard.

Former Gascard president Tom Cannon has resigned, as have director-investors Ken DeAngelis, James Leary and Timothy Noll.

Holland said the jobbers reviewed the situation before deciding to attempt a rescue. They found areas where costs could be cut, saw that transactions were rising and believed that direct jobber input could carry the company out of Chapter 11.

Holland could not elaborate on any changes in Gascard policy because other matters dealing with the bankruptcy took precedence. He did say that the jobbers might give a look at signing on more jobbers to raise transaction volume, a practice that Gascard halted a few months back, he said.

Gascard's current commitment with West Coast-major Arco, appears to be intact, as are talks with East Coast independent Atlantic, Holland said.

"For a lot of people, the major complaint against Gascard was that there was very little jobber input," Holland said, commenting on a situation that has since changed. "To a large degree, we (the jobbers) know how to market fleet fueling."

Domestic Demand Up 2.2% Says IPAA

Demand for domestic petroleum products will increase 2.2% to an average 16.9-million b/d and U.S. crude production will continue to drop for the third consecutive year, according to a forecast from the Independent Petroleum Association of America's Supply and Demand Committee.

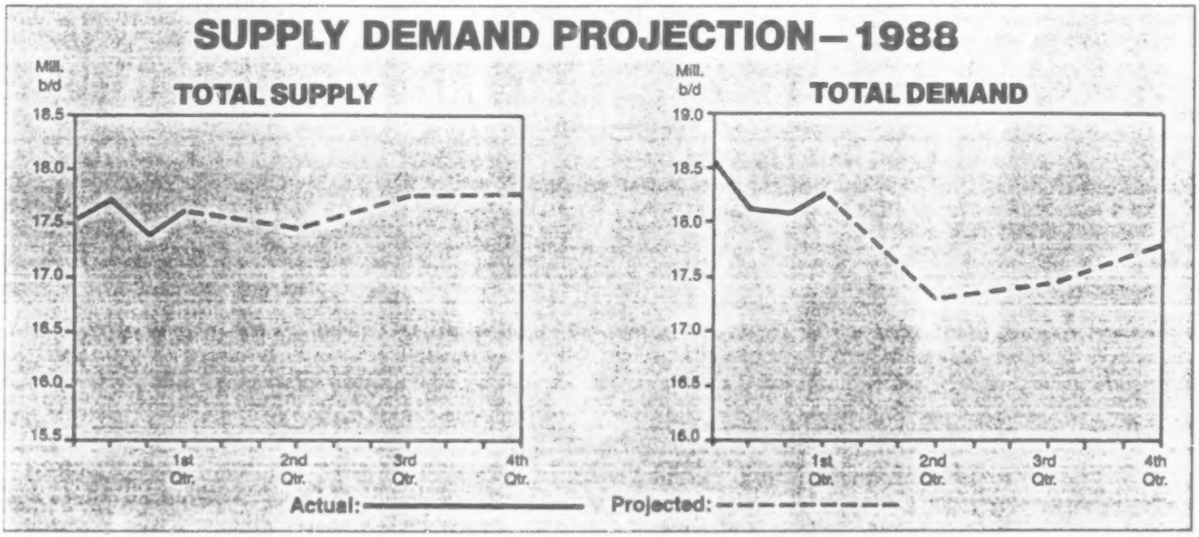
The report, which was released during IPAA's 1988 mid-year meeting, notes U.S. crude production is averaging 8.2-million b/d, a decline of 135,000 from last year. The report states that a modest recovery in drilling activity, coupled with increased production in Alaska's North Slope, will slow this year's decline rate to 1.2%, which is 4.3% below the comparable 1987 figure.

The rate of decline in crude oil production is forecasted to worsen in future years unless domestic drilling activity is stimulated further by economic incentives, the report states.

Other committee projection highlights:

- Lower crude oil production and higher demand will raise imports to 6.9-million b/d, an increase of 434,000 b/d from last year. Comparing the first quarter of this year to last year's first quarter report shows a 15% rise in imports. The committee says import dependency will reach 39% of the total U.S. supply this year, compared to 37% in 1987 and will increase even further in coming years. Deliveries for all products were substantially higher than during the first three months of last year.

(Continued on page 36)



(Continued from page 34)

- Natural gas will rise to 1.6% this year to 16.6-trillion cubic ft., while demand will jump 1.2% to 17.39-quadrillion BTUs.
- The committee projects economic growth will continue at modest levels for the remainder of 1988.

The committee says growth will slow with the expectation that the Federal Reserve Board will raise interest rates. This appears likely with the U.S. economy currently operating at high levels, and with the dollars decline raising import prices. In addition, there is a need to attract foreign investment in the U.S. economy to finance the large federal budget deficits.

The report states that motor gasoline demand is on the rise and will increase about 1.6% this year to 7.3-million b/d, which is a 2.1% increase from last year. The report attributes this increase to a higher vehicle population driving more miles which will offset expected improvement in average miles per gallon this year.

Aviation fuel is expected to show the largest percentage increase of 4.9% to 1.4-million b/d. The committee attributes the healthy growth to the increase in domestic and international travel.

Middle distillate demand shows a solid increase of 2.9%, an increase of 3.1-million b/d, primarily as a result of growth in the transportation sector. Residual fuel oil consumption is anticipated to increase less than 1% this year. Gains in industrial demand for residual fuel oil should offset the loss of market share in the power generation sector resulting from the improved supply of hydro and nuclear fuels.

IPAA's New Forecast: Demand Up, Output Soft

(Add 000 b/d)

			1988 Forecast			
DEMAND	**1st Qtr**	**2nd Qtr**	**3rd Qtr**	**4th Qtr**	**1988 Average**	**1987-88 % Chg.**
Domestic Products			(Add 000 b/d)			
Motor Gasoline	7,003	7,476	7,455	7,266	7,300	1.6%
Aviation Fuels	1,501	1,385	1,437	1,453	1,444	4.9%
Middle Distillates	3,635	2,905	2,767	3,266	3,143	2.9%
Residual Fuel Oil	1,508	1,165	1,163	1,208	1,261	0.6%
Other Products	3,757	3,625	3,898	3,782	3,765	2.1%
Domestic Demand	17,404	16,556	16,720	16,975	16,913	2.2%
Total Exports	875	739	717	771	775	0.3%
TOTAL DEMAND	**18,279**	**17,295**	**17,437**	**17,746**	**17,688**	**2.1%**
SUPPLY						
Domestic Production						
Crude Oil	8,312	8,185	8,118	8,086	8,175	−1.6%
Natural Gas Liquids	1,596	1,596	1,606	1,634	1,608	0.3%
Total Production	**9,908**	**9,781**	**9,724**	**9,720**	**9,783**	**−1.3%**
Imports						
Motor Gasoline	383	431	450	405	417	−2.3%
Aviation Fuels	67	60	62	59	62	7.1%
Middle Distillates	320	255	273	275	281	8.9%
Residual Fuel Oil	691	466	504	547	552	−0.2%
Other Products	664	668	566	794	673	7.2%
Total Products	2,125	1,880	1,855	2,080	1,985	4.4%
Crude Oil Imports	4,618	4,793	5,270	4,983	4,917	7.7%
Total Imports	6,743	6,673	7,125	7,063	6,902	6.7%
Other Supply	906	1,027	913	981	956	5.1%
TOTAL SUPPLY	17,557	17,481	17,762	17,764	17,641	2.0%
Refinery Inputs	12,906	13,263	13,345	13,166	13,170	2.4%
CLOSING STOCKS (millions of bbl.)						
Motor Gasoline	230.0	225.4	223.5	227.0	227.0	0.3%
Aviation Fuels	48.0	47.1	48.6	48.7	48.7	−7.2%
Middle Distillates	98.5	106.2	132.6	141.0	141.0	−1.3%
Residual Fuel Oil	42.0	41.7	43.6	45.7	45.7	−3.4%
Other Products	238.5	265.2	268.0	255.3	255.3	2.6%
Total Products	657.0	685.6	716.3	717.7	717.7	0.0%
Crude Oil Stocks	344.5	332.8	332.0	332.3	332.3	−4.9%
TOTAL STOCKS	1,001.5	1,018.4	1,048.3	1,050.0	1,050.0	−1.6%

Source: IPAA Supply and Demand Committee, May, 1983.

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Pennzoil	20.7	12.1	71.1
Kerr-McGee	10.3	20.2	(49.0)
Murphy	(6.4)	3.1	(308)
American Petrofina	30.4	19.8	53.5
Citgo	41.9	25.0	68.0
Getty	NA	NA	—

*Includes Tenneco Oil; **Operating income, not net; ***Second quarter, fiscal ends 9/30; NA=Not available.

Downstream Earnings

(Millions of dollars)

	1 Qtr. 1988	1 Qtr. 1987	% Chng.
Exxon	$431	$36	1097.2%
Domestic	94	(38)	—
Foreign	337	74	335.4
Mobil	217	78	178.2
Domestic	101	2	495.0
Foreign	116	76	52.6
Texaco	153	6	2483.0
Domestic	92	(55)	—
Foreign	61	61	0.0
Chevron	199	(14)	—
Domestic	134	(46)	—
Foreign	65	32	103.6
Shell	130	8	1525.0
Amoco (worldwide)	169	(5)	—
Arco	87	25	248.0
BP-America	NA	NA	—
Conoco	77	40	92.5
Phillips*	74	30	146.7
Sun	40	(12)	—

*Pre-tax operating income.

Hess and Chevron Top Crude And Product Importers in '87

Amerada Hess, New York-based refiner-marketer, and Chevron U.S.A., the nation's third largest oil company, were the biggest importers of crude oil and products in 1987, says the government's Energy Information Administration.

For Chevron, it was a repeat performance as the biggest importer of crude oil alone and crude oil and products combined. For Hess, it also was a repeat performance in distillates, resid and jet fuel. Hess also displaced Northville Industries, Melville, N.Y., as the biggest gasoline importer in the land.

Most of the importers are marketers but there are a number of brokers-traders in the lists also.

Here are the totals for 1987, as compiled by EIA in mid-May:

Top 10 Importers of Crude and Product

Company	Headquarters	Volume (000 b/d)	% of U.S. Total
CRUDE OIL AND PRODUCT			
Chevron	San Francisco	628	9.65%
Texaco	White Plains, N.Y.	461	7.08
Amerada Hess	New York	299	4.60
Shell	Houston, Tex.	287	4.41
Exxon	Houston, Tex.	280	4.30
Amoco	Chicago	271	4.16
Sun	Philadelphia	244	3.75
Standard Oil	Cleveland	232	3.56
Coastal Corp.	Houston, Tex.	229	3.52
Mobil	New York	229	3.52
Total Top 10		3,160	48.55
Total U.S.		6,509	
CRUDE OIL ONLY			
Chevron	San Francisco	596	12.85
Texaco	White Plains, N.Y.	414	8.92
Shell	Houston, Tex.	269	5.80
Amoco	Chicago	258	5.56
Standard Oil	Cleveland	231	4.98
Exxon	Houston, Tex.	200	4.31
Mobil	New York	198	4.27
U.S. Ste[illegible]	Pittsburgh, Pa.	189	4.07
Citgo	Tulsa, Okla.	179	3.86
Sun	Philadelphia	179	3.86
Total Top 10		2,713	58.48
Total U.S.		4,639	
FINISHED MOTOR GASOLINE			
Amerada Hess	New York	42	9.84
Clarendon Mktg.	Stamford, Conn.	37	8.67
Vitol S.A.	Coral Gables, Fla.	32	7.49
Northville Indus.	Melville, N.Y.	31	7.26
Getty Petro.	Jericho, N.Y.	26	6.09
Coastal Corp.	Houston, Tex.	25	5.86
Mobil	New York	23	5.39
Langham-Hill	Charlottesville, Va.	19	4.45
Bear Stearns	New York	16	3.75
Texaco	White Plains, N.Y.	15	3.51
Total Top 10		266	62.30
Total U.S.		427	

Source: Energy Information Administration, Petroleum Supply Monthly.

Company	Headquarters	Volume (000 b/d)	% of U.S. Total
DISTILLATES			
Amerada Hess	New York	51	21.25
Global Petro.	Waltham, Mass.	26	10.83
Clarendon Mktg	Stamford, Conn.	14	5.83
Wyatt Inc.	New Haven, Conn.	14	5.83
Charter Oil	Jacksonville, Fla.	12	5.00
Northville Indus.	Melville, N.Y.	12	5.00
Transworld Oil	Houston, Tex.	10	4.17
George Warren	New York	10	4.17
Astroline	Long Beach, Calif.	8	3.33
Vitol S.A.	Coral Gables, Fla.	8	3.33
Total Top 10		165	68.75
Total U.S.		240	
RESIDUAL			
Amerada Hess	New York	121	21.88
Coastal Corp.	Houston, Tex.	76	13.74
Clarendon Mktg.	Stamford, Conn.	45	8.14
Sun	Philadelphia	33	5.97
Charter Oil	Jacksonville, Fla.	28	5.06
BP/Nor. America	New York	27	4.88
Scallop Petro	New York	25	4.52
Clark Oil Trdg.	St. Louis, Mo.	20	3.62
Chevron	San Francisco	19	3.44
Carey Energy	New York	13	2.35
Total Top 10		407	73.60
Total U.S.		553	
JET FUELS			
Amerada Hess	New York	13	37.14
Texaco	White Plains, N.Y.	7	20.00
Mobil	New York	6	17.14
Western Petro.	Los Angeles	3	8.57
Defense Fuel Sup. Ctr.	Washington, D.C.	2	5.71
Chevron	San Francisco	1	2.86
Pacific Fuel Trdg.	Los Angeles	1	2.86
PanAm World A'ways	New York	1	2.86
Shell	Houston, Tex.	1	2.86
Astroline	Long Beach, Calif.	*	*
Total Top 10		35	100.0
Total U.S.		35	

*Less than 1,000 b/d.

Shell Fire Effects Quantum Chem Supply

Quantum Chemical Corp. announced that the Shell Oil Co. Norco, La., plant explosion and fire will have adverse effects on its ethylene production at its Gulf Coast petrochemical facilities because Shell supplies its ethylene.

Shell Oil Co. says it will take at least one year to rebuild its Louisiana plant and could take as long as 18 months before the entire refinery is ready to operate. The suspension of olefin and polypropane production will have negative effects on the company's petrochemical division, says Shell.

Because of the cutbacks, Quantum has been informed that Shell's ethylene customers will be put on allocation for an undetermined time, reducing Quantum's Gulf Coast supply. The allocation will result in a 20% reduction in the availability of Quantum's ethylene-derived products, says Quantum.

Demand for Quantum's major ethylene-based products, polyethylene and vinyl acetate monomer, has been strong and the company is evaluating what effects the cutbacks will have on the overall production and its marketing position.

The company notes that it has business interruption insurance which it believes will reimburse it for lost profits because of the supply cutback.

In addition to the Gulf Coast facilities where it purchases ethylene, Quantum has petrochemical plants in the Midwest producing about 2.2-billion pounds of ethylene per year.

(Continued from page 32)

carry the company's costs. Lindsay Holland said that recently, the fleet fueling firm was averaging between $300,000 and $400,000 each month in losses.

Rising phone rates, the plunge in gasoline prices in 1986, extravagant offices and even lawsuits were among the factors that drove the La Jolla, Calif.-based company to bail out at the end of April, said Lindsay Holland of Barney Holland Oil, Ft. Worth, Texas. Holland is one of five jobbers who are now attempting to steer the company back on track.

The other four jobber licensees involved are Keith Moore of West Texas Gas in Midland, Texas; Larry Bull of Herkimer Petroleum Products, Inc. in Utica, N.Y.; Stephen Draizin of RAD Oil Co., Inc. in New Rochelle, N.Y.; and Stewart Spinks of Spinx Oil Co. in Greenville, S.C.

Together, the five jobbers formed a company called GCF, Inc., which loaned Gascard a little under $400,000 initially and expects to kick in another $200,000 before bankruptcy proceedings close, Holland said. Optimistic estimates put the closing sometime in early fall, he added.

Under Chapter 11, Gascard hopes to provide for payment in full of all secured claims, partial payment for unsecured claims and partial retention of the present stockholders equity interest.

Several lawsuits, mostly filed by jobber licensees against Gascard, must also be reckoned with, Holland said. Two lawsuits have been settled for about $80,000 with an additional half dozen or so filed, he said. These lawsuits and the potential for more was another reason Gascard decided to file, he added.

Deceptive selling and disputes about fees that are charged to fleet clients were some of the complaints leveled by jobbers in the past against Gascard [*NPN*—Oct. '86, p52].

With its proposed plan, GCF and "other investors" will invest an additional $2-million in exchange for issuance of new common stock in Gascard.

Former Gascard president Tom Cannon has resigned, as have director-investors Ken DeAngelis, James Leary and Timothy Noll.

Holland said the jobbers reviewed the situation before deciding to attempt a rescue. They found areas where costs could be cut, saw that transactions were rising and believed that direct jobber input could carry the company out of Chapter 11.

Holland could not elaborate on any changes in Gascard policy because other matters dealing with the bankruptcy took precedence. He did say that the jobbers might give a look at signing on more jobbers to raise transaction volume, a practice that Gascard halted a few months back, he said.

Gascard's current commitment with West Coast-major Arco, appears to be intact, as are talks with East Coast independent Atlantic, Holland said.

"For a lot of people, the major complaint against Gascard was that there was very little jobber input," Holland said, commenting on a situation that has since changed. "To a large degree, we (the jobbers) know how to market fleet fueling."

Domestic Demand Up 2.2% Says IPAA

Demand for domestic petroleum products will increase 2.2% to an average 16.9-million b/d and U.S. crude production will continue to drop for the third consecutive year, according to a forecast from the Independent Petroleum Association of America's Supply and Demand Committee.

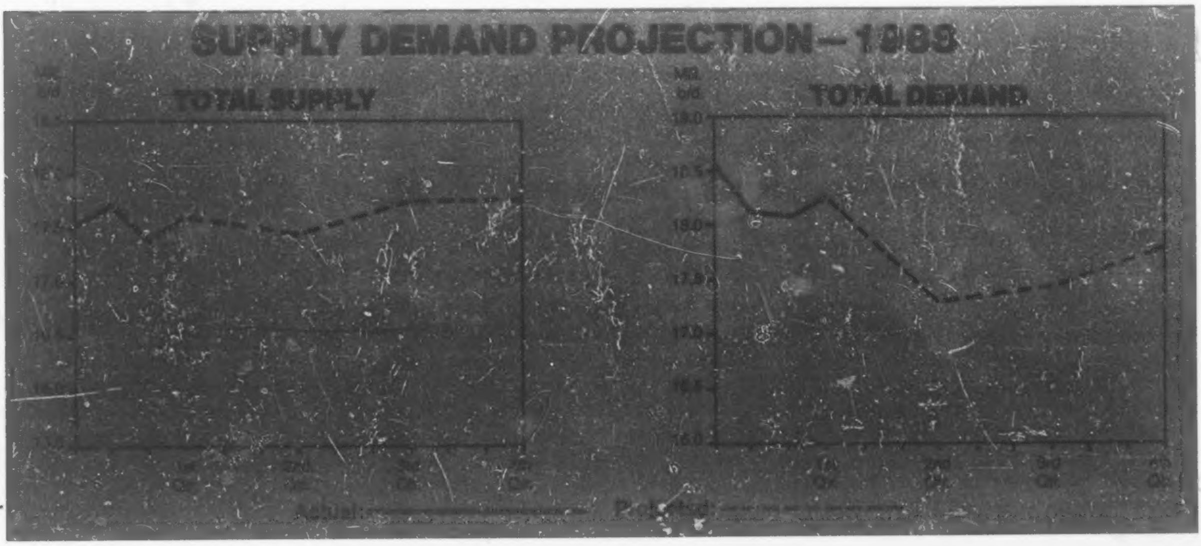
The report, which was released during IPAA's 1988 mid-year meeting, notes U.S. crude production is averaging 8.2-million b/d, a decline of 135,000 from last year. The report states that a modest recovery in drilling activity, coupled with increased production in Alaska's North Slope, will slow this year's decl[illegible] 1.2%, which is 4.3% below the comparable 1987 figure.

The rate of decline in crude oil production is forecasted to worsen in future years unless domestic drilling activity is stimulated further by economic incentives, the report states.

Other committee projection highlights:

- Lower crude oil production and higher demand will raise imports to 6.9-million b/d, an increase of 434,000 b/d from last year. Comparing the first quarter of this year to last year's first quarter report shows a 15% rise in imports. The committee says import dependency will reach 39% of the total U.S. supply this year, compared to 37% in 1987 and will increase even further in coming years. Deliveries for all products were substantially higher than during the first three months of last year.

(Continued on page 36)



(Continued from page 34)

- Natural gas will rise to 1.6% this year to 16.6-trillion cubic ft., while demand will jump 1.2% to 17.39-quadrillion BTUs.
- The committee projects economic growth will continue at modest levels for the remainder of 1988.

The committee says growth will slow with the expectation that the Federal Reserve Board will raise interest rates. This appears likely with the U.S. economy currently operating at high levels, and with the dollars decline raising import prices. In addition, there is a need to attract foreign investment in the U.S. economy to finance the large federal budget deficits.

The report states that motor gasoline demand is on the rise and will increase about 1.6% this year to 7.3-million b/d, which is a 2.1% increase from last year. The report attributes this increase to a higher vehicle population driving more miles which will offset expected improvement in average miles per gallon this year.

Aviation fuel is expected to show the largest percentage increase of 4.9% to 1.4-million b/d. The committee attributes the healthy growth to the increase in domestic and international travel.

Middle distillate demand shows a solid increase of 2.9%, an increase of 3.1-million b/d, primarily as a result of growth in the transportation sector. Residual fuel oil consumption is anticipated to increase less than 1% this year. Gains in industrial demand for residual fuel oil should offset the loss of market share in the power generation sector resulting from the improved supply of hydro and nuclear fuels.

IPAA's New Forecast: Demand Up, Output Soft

(Add 000 b/d)

DEMAND	1st Qtr	2nd Qtr	1988 Forecast 3rd Qtr	4th Qtr	1988 Average	1987-88 % Chg.
Domestic Products			(Add 000 b/d)			
Motor Gasoline	7,003	7,476	7,455	7,266	7,300	1.6%
Aviation Fuels	1,501	1,385	1,437	1,453	1,444	4.9%
Middle Distillates	3,635	[illegible]	2,767	3,266	3,143	2.9%
Residual Fuel Oil	1,508	[illegible]	1,163	1,208	1,261	0.8%
Other Products	3,757	3,625	3,898	3,782	3,765	2.1%
Domestic Demand	17,404	16,556	16,720	16,975	16,913	2.2%
Total Exports	875	739	717	771	776	0.3%
TOTAL DEMAND	18,279	[illegible]	17,437	17,746	17,688	2.1%

SUPPLY						
Domestic Production						
Crude Oil	8,312	8,165	8,118	8,096	[illegible]	[illegible]
Natural Gas Liquids	1,596	1,596	1,606	1,624	1,605	[illegible]
Total Production	9,908	9,761	9,724	9,720	9,778	[illegible]
Imports						
Motor Gasoline	383	401	450	406	[illegible]	[illegible]
Aviation Fuels	67	60	66	59	[illegible]	[illegible]
Middle Distillates	326	245	270	[illegible]	281	[illegible]
Residual Fuel Oil	621	439	504	647	[illegible]	[illegible]
Other Products	694	685	665	714	[illegible]	[illegible]
Total Products	[illegible]	1,830	1,955	[illegible]	[illegible]	[illegible]
Crude Oil Imports	4,618	4,743	5,230	4,982	4,817	[illegible]
Total Imports	6,7[illegible]	6,573	7,125	7,082	6,905	[illegible]
Other Supply	[illegible]	1,027	313	961	666	[illegible]
TOTAL SUPPLY	[illegible]	17,621	17,162	17,764	17,341	[illegible]
Refinery Inputs	12,[illegible]	13,203	13,345	13,160	13,170	[illegible]

CLOSING STOCKS (millions of bbl.)						
Motor Gasoline	230.0	228.4	223.6	227.0	[illegible]	0.2%
Aviation Fuels	45.0	47.4	46.3	46.7	46.7	[illegible]
Middle Distillates	98.9	106.2	132.4	141.0	141.0	[illegible]
Residual Fuel Oil	42.0	41.7	43.8	45.7	45.7	[illegible]
Other Products	232.5	[illegible]	263.0	285.3	256.3	[illegible]
Total Products	667.0	680.2	716.3	717.7	[illegible]	0.0%
Crude Oil Stocks	344.8	332.5	332.0	332.5	332.0	[illegible]
TOTAL STOCKS	1,001.8	1,015.4	1,048.3	1,050.0	1,050.0	[illegible]

Source: IPAA Supply and Demand Committee, May 1988

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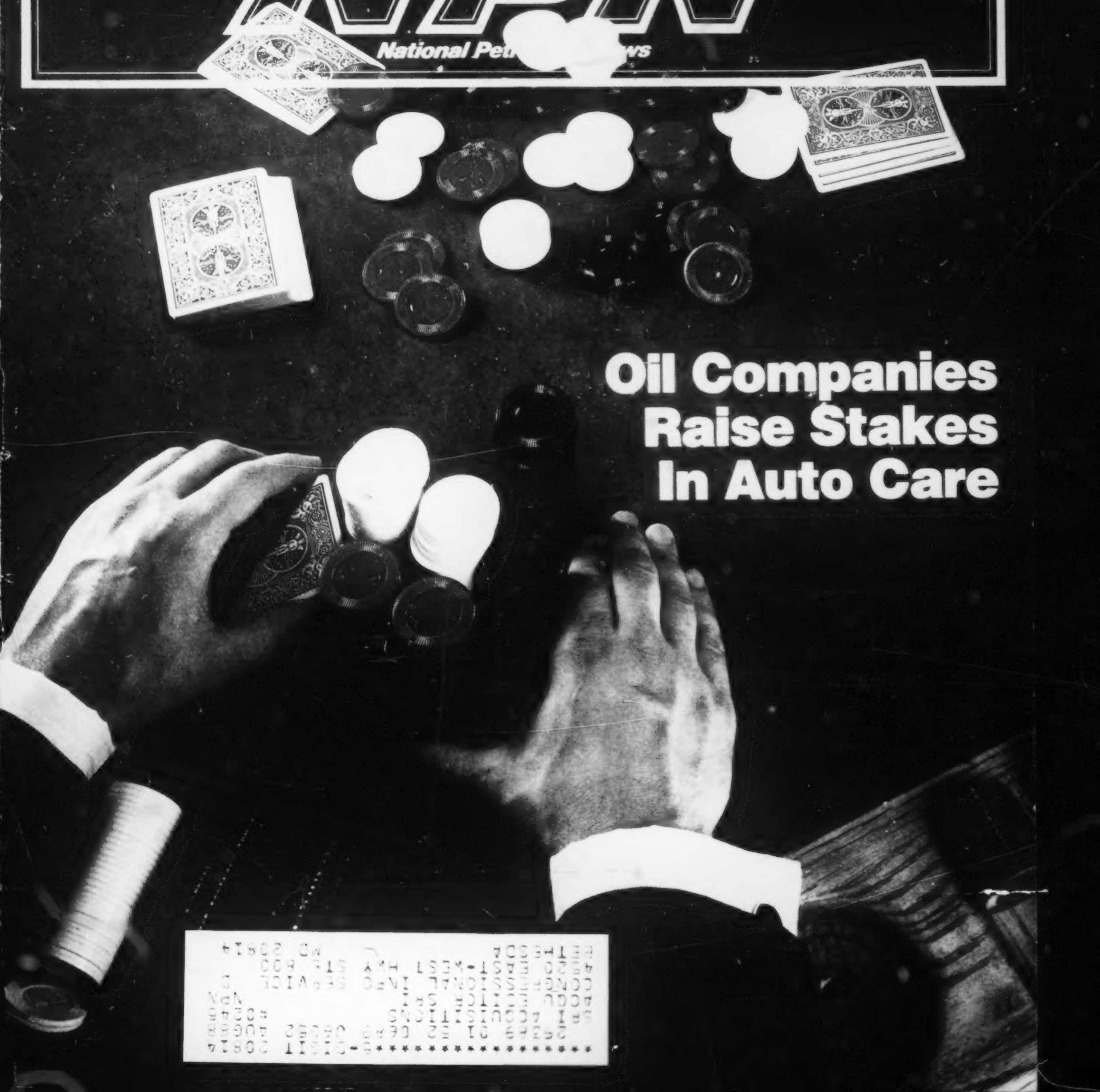
How Circle K Plans Continued Growth

Why Arco Wants Non-Gasoline C-Stores

What Lower Refinery Count Means To Market

NPN

National Petroleum News



Oil Companies Raise Stakes In Auto Care

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29389 01 52 06?? J6052 AUG88
SRI ACQUISITIONS #0246
ACQU EDITOR SRI NPN
CONGRESSIONAL INFO SERVICE D
4520 EAST-WEST HWY STE 800
BETHESDA MD 20814

NATIONAL PETROLEUM NEWS
Established in 1909

VOL. 80 **NO. 9**

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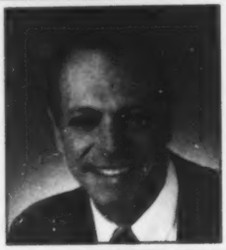

Editor's Viewpoint

A few years ago, a sharp industry veteran speculated that if you wanted to get ahead of the pack and reap some real windfall profits, the thing to do was to open a string of strategically placed full service stations offering automotive maintenance and repair. He said that since jobbers had led the way into self service pumpers and C-stores and now had the majors fully committed to them, it was time to reverse field and offer motorists full facility outlets, which had become relatively scarce compared to what was available in the '60s and early '70s.

It was hard to tell if the remark was serious or tongue-in-cheek. Probably a little of both. Most jobbers aren't, for some good reasons, interested in car service. But other parties are and may well substantiate the observation of that industry pro. As this month's cover feature points out, things are happening in the automotive service market.

For more than a decade, the number of full service outlets providing car care dropped steadily, leaving a void in the market—a $100-billion market. Part of that void was filled by former service station dealers who pulled out of gasoline marketing and opened auto repair shops. Mass merchandisers got into the act and car dealerships also picked up some of the slack (although you have to wonder how; if you've tried to get your car serviced at a dealership lately, you know its easier to get an audience with the Pope). At the same time, remaining full facility stations were swamped with auto service business.

Tire companies, however, were the most notable participants. After years of watching profits on tire sales evaporate, they made a strong commitment to auto service and in a relatively short time carved out a large chunk of the market.

In recent years, the major oil companies have shown a renewed interest in that market. They'd never really abandoned car care; neglected would be more accurate. That attitude began changing back in 1984 when, among other things, industry figures showed motorists were spending more money servicing their cars than fueling them. The interest—and investment—by the majors in the car care market continued to mount. This year they've made some real moves to get a bigger piece of it and a knock-down-drag-out battle is shaping up. Goodyear and Firestone, the acknowledged leaders in auto service chains, have also invested heavily to establish themselves in automotive service—and not just in advertising, but in training qualified mechanics and giving them sophisticated equipment to work with. They aren't likely to roll over and play dead.

—Frank M. Victoria

National Petroleum News (NPN) (ISSN 0149-5267) is published monthly by Hunter Publishing Co., Inc., 950 Lee Street, Des Plaines, Illinois 60016. (312) 296-0770.

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.

Basic **subscription rates** for one year to individuals in the petroleum marketing industry are: U.S. $54; Canada $63 (U.S. $); Foreign surface mail $69 (U.S. $); Foreign airmail $104 (U.S. $). Non-industry personnel rates for one year are: U.S. $69; Canada $78 (U.S. $); Foreign surface mail $84 (U.S. $); Foreign airmail $128 (U.S. $); **Single copy price:** U.S. & Canada $8.00 (includes first class postage). Foreign $10.00 (includes airmail postage). **Mid-June Factbook:** U.S. $50; Canada $60; Foreign $70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S patent office. **Change of address:** Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to : Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (312) 296-0770, 9 a.m. to 4 p.m.

Postmaster: Send address changes to NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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Motorists now spend more money on fixing their cars than fueling them. Which explains in part why oil companies are getting serious again about automotive service. **Page 30**

Beef it up. Roast

Circle K Corp., the Sun Belt C-store kingpin, is busting out all over with its simple but aggressive "buy, build or refurbish" philosophy. With close to 5,000 stores, Circle K is gaining ground fast on market leaders Southland and Cumberland Farms. **Page 42**

Despite the fact that the operable domestic refinery count is the lowest on record, the refining industry is in good shape with improved plant efficiencies and a continued improvement in utilization rates. **Page 50**

• TRENDS

The Zebra Equation: What Kind Of Animal Can It Be?

One of these days, the gasoline and C-store industries are going to reach the point where their population statistics and operational volumes counterbalance each other. Then the $64 question that arises will be akin to the oldie about the zebra: Is the animal that stands out there white with black stripes? Or is it the other way 'round, black with white stripes?

In other words, is the survivor of this statistical collision going to be a retail gasoline business that sells groceries on the side? Or is it going to be a grocery business that sells gasoline as a sideline product?

Not important? Think again. The numerical convergence mentioned above seems almost certain to happen in the next two or four years—perhaps sooner, if gasoline prices skyrocket again as they did in 1981 or collapse like in 1986. (Remember? Unleaded premium at $1.50 a gal. and the average for all grades and services, $1.35 a gal., versus 98¢ for unleaded premium and 83¢ for the industry average?) Shock waves like that could upset the economic balances very quickly.

Look at it this way:

Recently published data indicate the C-store industry has approximately 80,000 stores, of which 58,000 sell gasoline. Groceries and other items bring in $40-billion annually while gasoline accounts for $32-billion.

In recent years, the C-store industry has been growing at a rate of roughly 7% to 8% per annum. So has the ratio of gasoline sales to grocery: Five years ago, grocery sales represented 65% of the total revenues and gasoline the other 35%. Today, the percentages are 55% for groceries and 45% for gasoline. If this growth pattern continues unabated through the early '90s, the C-store population should exceed 100,000 units by 1992. Of these, probably nine out of 10 will be selling gasoline. The dollar ratio gap between groceries and gasoline ought to shrink even further.

Bear in mind that the gasoline station universe has been declining steadily since 1972. It's expected to be down to 110,000 by the end of this year and who's to say that it won't be down to 100,000 or less by 1992? Thus the equation zebra will have about 100,000 service stations selling groceries and 100,000 C-stores selling gasoline in competition with them.

Gasoline retailers have been adding groceries and convenience items to their station scenes for the last 10 to 15 years. It's now recognized that gasoline stations must have such ancillary businesses and products to stay alive in the future because they won't be able to make it on gasoline alone. It's estimated that at least 50% of the gasoline stations have some sort of foodstuffs near the pumps now and that many have come on stream with full-scale convenience stores.

This what makes these numbers intriguing:

The U.S. Census Bureau long ago established the precept that whichever segment generates the greatest cash flow—gasoline or groceries—will determine its retail business classification, i.e., whether it's a service station with groceries or a convenience store with gasoline.

As indicated above, the dollar ratio gap between gasoline and groceries is getting thinner all the time. Suppose the Middle East blows up. There'd be gasoline lines and $1.50 (maybe even $2.50) a gal. gasoline in no time. Almost immediately, more than half of the C-stores would be getting the lion's share of their cash flows from gasoline vis a vis groceries. They'd be reclassified as service stations immediately. The gasoline station population, as a result, could suddenly shoot up to 150,000 units and the C-store industry, conversely, could plummet to 50,000 or less.

Another factor: No one really believes that the OPEC members will shape up and fly straight before the year 2000—if ever. Production excesses mean soft prices indefinitely. Who knows, maybe $10 crude oil again? Keep a weather eye on this burgeoning array of 50-50 deals that U.S. oil companies are working out with OPEC suppliers, a la Texaco and Saudi Arabia, Citgo and Venezuela, etc. What's going to happen if these foreign biggies start playing the same kind of discount and double-talk games in the retail marketplaces as they do in crude oil? With billions invested and a determination to stay in there regardless of the cost, they'll have a potential for eviscerating the marketplaces.

—by J. Richard Shaner

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

MAY	Gasoline (All types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$0.971	$0.911	$0.955	$1.105
Regions:				
Northeast	.975	.895	.940	1.106
North Central	.981	.937	.975	1.126
South	.957	.887	.937	1.092
West	.973	.922	.968	1.113

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

STOCKS (Add 000 bbl.)

	7/1/88	7/3/87
Gasoline (total)	209,725	230,969
Gasoline(unleaded) *	132,074	135,680
Jet Kerosine	38,813	38,016
Distillates	111,314	104,267
Residual	41,113	39,455

** Included in gasoline total*
Source: American Petroleum Institute

Look Out Firestone, Goodyear: Here Come The Oil Companies!

Automotive service is coming back seriously in the oil business—and not in the conventional way, but in stronger forms than it has ever known. Some oil companies are taking steps that down the road could give U.S. service-center leaders like Firestone and Goodyear a serious run for their money.

Oil companies, with their money and real estate, can go just about as far in automotive service as they have the will to go. The key is how much attention top management chooses to give it—and there is growing evidence that upper echelons are getting deeply involved.

The awakening may have begun in 1984, the critical crossover year when average motorists began spending more on servicing their vehicles than on fueling them. Management saw potential growth in services that they couldn't see in motor fuel sales.

The question then becomes: How do you get a significant piece of the $100-billion-a-year automotive-aftermarket business?

Oil company action

The combined activities of oil companies in developing automotive service are becoming more and more impressive. Some are expansions and refinements, and some are downright revolutions, at least for oil companies.

Amoco has just taken a "quantum leap" toward a marketwide chain of state-of-the-art automotive service centers [*NPN*—July '88, p31]. The ambitious program appears capable of transforming a very good, conventional service-station chain into a major-league contender in automotive service.

BP America's chain of sophisticated standalone service centers in Ohio and western Pennsylvania is lately sporting its own parts house and machine shop. The chain is expanding to 112 this year, and when the number reaches 115-120 next year, the first phase will be over. By then, the company will be faced with a decision whether or not to expand marketwide to the East and South and perhaps even elsewhere. It's a fateful decision indeed.

Shell's Auto Care program, which in 1974 initiated the rebirth of automotive service in the oil industry, has 1,650 franchisees, representing 70% of the company's conventional service dealers. Shell would like to sign up all of them, although that may not be practical.

Sunoco has more than 300 Ultra Service Centers and is projecting 700 by the end of 1989.

Unocal's Protech program, with its own advanced training, has 629 stations signed up, representing 45% of eligible dealers. The company isn't trying to push participation too high for fear it might lower the service standards it has set. The company has also built nearly 50 "super-facilities," which are multi-bay service centers worthy of the name. [For a complete report on Unocal's dedication to automotive services and TBA, see *NPN*—July '87, p34.]

Exxon is reportedly drafting a car-care program benefiting from the extensive

By Mark Emond
Contributing Correspondent

experience the company gained in its pioneering diagnostic chain two decades ago.

Chevron has a car-care program nearly ready to spring. Mobil, which dropped its TBA (tires, batteries, and accessories) program in 1982, is experimenting with various car-care programs in the Northeast that could be a precursor to getting back into TBA.

These activities are accompanied by the development of essential support functions that recognize the special needs of modern auto service, such as advanced training, computerized technology, and warehouse distribution of parts. The scene is being set for a major upheaval in automotive servicing.

Why ProCare is pivotal

It may be that no other oil company will ever go into automotive service the way BP America did. Nobody has the market concentration in any state that BP's Sohio brand does in Ohio. But it can't be ruled out, especially if BP America decides to expand the ProCare operation beyond Ohio and perhaps even beyond its present marketing area.

BP America still has not unified its brands: BP Oil in the East, Gulf in the South, Boron in a number of states surrounding Ohio, and others. The decision is expected to be made soon, at British Petroleum headquarters in London, where the fate of ProCare will probably also be decided.

ProCare centers, typically with five bays in line or six bays back to back, are standalones, but that does not mean they are not tied in with Sohio gasoline. Some 35-40% are right next door to Sohio stations.

Says Mike Bohdan, ProCare manager, "There's an advantage to have the two businesses adjacent to each other. We don't hide the fact that they're both Sohio. We think it makes sense, because a big piece of what we're trying to do is to get the consumer to say: 'If these people can repair these vehicles as well as they do, they must be a good company.'"

But standalone management is essential, Bohdan believes. "You've got to be as efficient as possible, because that is what will save you in the future. So we felt we had to split the two businesses: build a high-volume, gasoline-only facility for selling the commodity product, and build a bigger standalone repair facility to do automotive repair efficiently. We have totally separate management teams for the two businesses."

ProCare hasn't lost sight of its petroleum environment. Says Bohdan, "It's hard to differentiate yourself in gasoline, but in automotive repair, there's a huge differentiation that can be made between you and other people in the industry.... We're here to enhance the image of our brand, relative to the other oil companies. So ProCare is really a gasoline strategy."

What happens after 1989? "There are a number of possibilities," says Bohdan. "We could go to the Southeast with our Gulf brand, and to the East Coast with our BP brand, and could just choose to go some place like St. Louis, where we don't market gasoline, and just operate as ProCare alone."

All eyes are on ProCare. It is the oil industry's biggest challenge to Goodyear and Firestone. If ProCare doesn't go beyond phase one, it's unlikely any oil company will ever go that way again. But if ProCare expands—and depending on how it expands—it could become a prototype that other oil companies could emulate before long.

GOODYEAR
GOODYEAR
GOODYEAR CERTIFIED AUTO SERVICE
GOODYEAR

Goodyear has embarked on an ambitious program of expansion of its Certified Auto Service concept throughout its chain of service centers. With more than 4,000 outlets in the United States and other countries, the nation's top tire company lays claim to being the largest automotive service-center chain.

Sunoco has more than 300 franchised Ultra Service Center stations now and is projecting 700 by the end of 1989.

Shakeup among leaders

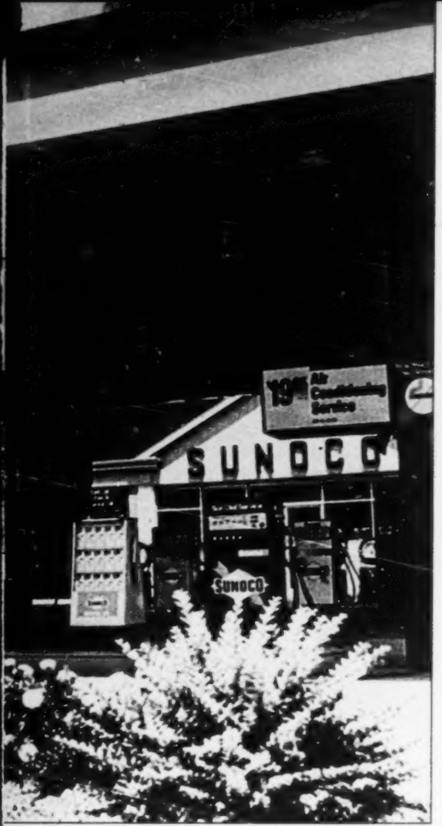
Goodyear and Firestone are the recognized current leaders among the automotive-service chains. General and Goodrich are fading.

Goodyear has about 5,000 outlets and is expanding aggressively. The company won't reveal its plans; tire companies are notorious for the secrecy in which they shroud their businesses. But trade sources say the target for this year was 400 more.

Of these 5,000, 971 are retail truck-tire centers and leased space at department stores. Some 1,100 are company-owned, 630 are franchised, and the remainder are run by independent dealers, jobbers and others. Trade sources think Goodyear may be moving away from company operations.

Firestone says it has 1,500 centers and won't talk about its plans, either. Although the company has expanded its chain strongly the past few years and is actively advertising its MasterCare service ("No big deal"), trade sources don't see much new building just now. They think the lull might only be temporary, the result of the company's takeover by Bridgestone, the huge Japanese tire manufacturer.

Outsiders don't know what Bridgestone's plans are for their newly-acquired service centers, and they suspect insiders might not



really know what those plans are, either.

The buyout has a number of implications for oil companies, aside from how it might change Firestone's service-center plans. In the wake, General Motors canceled its contract for the purchase of Firestone tires for its new cars. Firestone reportedly will not feel the brunt until 1989, which will give the company a little time to solve its impending oversupply problem.

Firestone will say only that the loss represents 20% of its North American tire production. Trade sources say it represents 4.5 to 5.5-million tires.

That's a lot of tires looking for a home. Firestone could try to increase its OE (original equipment) sales to Ford, Chrysler and perhaps other auto manufacturers. This is supremely competitive. More likely, tire specialists say, Firestone will try to drum up new business among oil companies and other large accounts.

Firestone may also decide to sell more tires under private labels, a business the company is said to have largely pulled out of "unceremoniously" in 1982. Says the marketing manager of an independent tire manufacturer, "I would guess Firestone might apologetically, on bended knees, go back to the private-brand customers they dumped a few years ago."

One such company is Unocal, which is now supplied mostly by Kelly-Springfield, but also by Cooper.

Some oil-company TBA managers look for lower prices from Firestone for awhile. Says one manager, "Firestone is our predominant tire supplier. I think we're going to see some pretty attractive pricing the next year. They can't afford to idle production." If this happens, prices could get soft all around.

Nobody expects Firestone to get out of the service-center business. This means Goodyear and Firestone will play a role in the relative success of oil-company TBA efforts for many years to come.

What it takes

The original oil-company car-care packages have several salient features: concentration on certain services, advanced and certified training, cooperative advertising and company warranties. The objective is to improve service at conventional, though upgraded, service stations.

Because of the focused effort and quality controls, these kinds of repair facilities are superior to older conventional stations. But they are not typically in the Goodyear and Firestone league.

BP America's ProCare, on the other hand, is in their league and Amoco's revamped Certicare intends to be. Both programs are aimed at the total car, not just a limited selection of services.

What Exxon, Chevron, Mobil and perhaps others may be hatching remains to be seen, but trade talk indicates that their programs will likely resemble Shell's and Sunoco's program more than they do BP's and Amoco's.

Exxon, with its former experience in specialized car-care facilities, might surprise everybody. The company declines to discuss its plans or the history of its car-care program.

Critical factors

Closer to the summit of automotive service, sophisticated programs absolutely require two ingredients, says ProCare manager Bohdan: "We believe there really are two keys: first is the quality of your technical training program; second is the availability of parts."

How oil companies plan to handle training is covered in detail later in this article. Regarding parts, BP America's solution consists of being a national warehouse distributor (WD). Recently the company has opened its own parts house and machine shop in Toledo to find out what the parts business is all about.

ProCare's warehouse distribution of parts is supplementary to the Atlas Supply program, itself a proprietary WD system shared by Amoco, BP America, Chevron, and Exxon. Atlas is a top-notch program, recognized as the best in the oil business, but it's not a complete line if the objective is to service the entire automobile.

Bohdan says, "The people who designed ProCare initially felt there could be a central facility where you could do things like recore radiators, rebuild transmissions—that sort of thing. The parts house worked out really nice to accommodate that.

"This parts house has become very big, very fast. We've just got this huge dedicated customer (ProCare). What I know now is that I can successfully run a parts house just because I can almost live on the ProCare business alone.

"The distribution of parts is the easy piece

While other companies have been experimenting with C-stores, car washes and the like, Unocal has never lost interest in car service, at least in its Western division. Unocal promotes dealer service professionalism with its Protech program, emphasizing technical training and certification of mechanics.

of getting a customer's car fixed," he says. "That's an awful lot easier business than is actually fixing the car. I kind of like the profitability of that store and sometimes wonder why I don't get into the parts business and forget repairing the car."

Amoco is setting up a national parts buying network with Parts Plus/AAAD. This is a complete line and Certicare franchisees can enjoy WD prices.

Keys to training

The sophistication of oil-company automotive-service training programs is growing fast. Space restricts a detailed description of the programs completely, but an explanation of some highlights and characteristics will help show what's happening.

The National Institute for Automotive Service Excellence (ASE) is essentially a testing service that certifies mechanics in various automotive services, such as tuneup, brakes and front-end alignment. It's okay as far as it goes, but it doesn't go all the way.

"If you're ASE certified it doesn't mean you can fix a car," says BP America's Bohdan. "It's a basic, minimum qualification, and you have to take people well beyond the ASE level before you have somebody who can fix a car today."

Because of this, most oil companies provide their own parallel and supplementary programs. For example, Unocal doesn't even recognize ASE, choosing to do all of its training and certification itself. Amoco's new Certicare starts with ASE certification but goes significantly beyond that. BP America creates curricula and farms out training to Autotech, Minneapolis, a specialized trade school, with linkage agreements to 14 local technical colleges.

Firestone
of FIRESTONE
OIL GREASING TIRES BATTERIES
MasterCare

Another tire giant with a big stake in auto service is Firestone, which operates 1,500 MasterCare service centers. With the takeover by Bridgestone, the program could expand again.

There are many more variations on these themes.

The latest training plan to be announced by an oil company is Amoco's. It includes computerized diagnostic assistance. Beyond ASE certification, Amoco has worked with Autotech to set up its own "Certitech," described as being "postgraduate." Monthly training sessions are offered free to franchisees.

Diagnostic support consists principally of a "Certinet" computer system which links mechanics to Autotech's technical information network. This gives access to 500,000 pages of technical references and provides step-by-step assistance in diagnosis and servicing.

After more than two years of experimentation, Shell adopted earlier this year a program it thinks is better, according to Nancy Curry, Auto Care program manager. It's a "diagnostic hotline" to Automotive Data Systems (ADT), Huntington Beach, Calif. Using an 800 telephone number, mechanics can get personal guidance without having their own computer and the training to run one. Coverage includes aftermarket equipment in addition to original factory.

This is supplementary to Shell's training program, often using outside companies, and mandatory ASE testing and accreditation in the services the company specializes in.

Chevron USA, with a long history of commitment to automotive service, is now developing a car-care program and is working with Atlas Supply to develop a training program to replace the one that was cut last year for budgetary reasons [*NPN*—Oct. '87, p60].

Says Chevron TBA manager Mike Mavrakis, "The dealer doing backroom business is having a tremendous problem today getting the proper training. You've got to help him or he's not going to be in the running."

It's clear then that some oil companies have a good fix on what must be done to compete in automotive service. Slow to start, the steamroller is beginning to pick up speed.

Dedicated TBA salesmen

The commitment of an oil company to TBA is manifest in the organization of a sales force dedicated entirely to those products. The history of TBA in the oil industry abounds with cases of TBA suffering in the hands of salesmen devoting almost all of their time to gasoline.

Two eminent examples of companies that have assigned a separate sales force to TBA are Amoco and Exxon, and both have reported good results. Neither company adopted the program to see whether it would work, but rather to make it work, another demonstration of their commitment to the business.

The dedicated sales people are on commission, usually with a base, profiting in

Atlas Automotive Training Plans Take a Turn — Maybe

When Chevron disbanded its envied automotive training program two years ago for budgetary reasons, Atlas stepped in to provide it for its four licensees—Amoco, BP America, Chevron and Exxon [*NPN*—Oct. '87, p60]. But after a single test in Baltimore, Atlas has decided to farm the training out to vendors.

The decision isn't set in concrete yet, though, because some licensees may still want Atlas to run a training program of its own.

Walt Windeknecht, Atlas president, says the trial program didn't get enough dealer response. He explains, "Everybody talks about the need for training, but when it comes time to sign on the bottom line, the numbers don't show up."

Some licensee people think Atlas tried to do too much on its own, failing to get the oil companies to help drum up interest in the new program. Says one, "At the time dealers had to respond to the solicitation, it was icy and snowy in Maryland. The dealers weren't familiar with automotive-service training because they hadn't had any.... Without the oil companies behind it, it isn't going to be sold right."

Another push by the licensees is reportedly going to be made for Atlas training.

Windeknecht feels training by vendors is consistent with other Atlas programs. "What we've done is treat training as a product, like any other product that carries the Atlas trademark. We don't manufacture any of the products. We work with the manufacturers of the product and assure that the product meets the needs of our licensees."

The primary vendor Atlas is working with is RDT, Houston, also known as the Universal Technical Institute, Windeknecht says.

A training program by Atlas itself might still materialize, but for now at least, the required training will be done by outside specialists.

proportion to their own success. If they weren't doing well, they wouldn't be able to hang around long. Exxon has been surprised by how little turnover there has been in the TBA sales force, a mark of success.

The hiring of dedicated TBA people impresses vendors. Jim Taylor, manager of oil-company sales for Cooper Tire, says, "As far as we at Cooper are concerned, a dedicated TBA sales force throws up a flag that the oil company is committed to the TBA business, that it is part of their overall operation and that they want to increase that area of their business. We are a major supplier of the Atlas brand and we've seen nice gains."

The Atlas companies are some of the best in the TBA business and one company frequently adopts a program that works for the others. Amoco was first with a dedicated sales force in TBA and Exxon followed.

Chevron and BP America could join the parade. Chevron, with its combined Chevron/Gulf network, could go that way tomorrow with management approval. BP America might have a bit of trouble with its mix of BP, Gulf and private-brand networks.

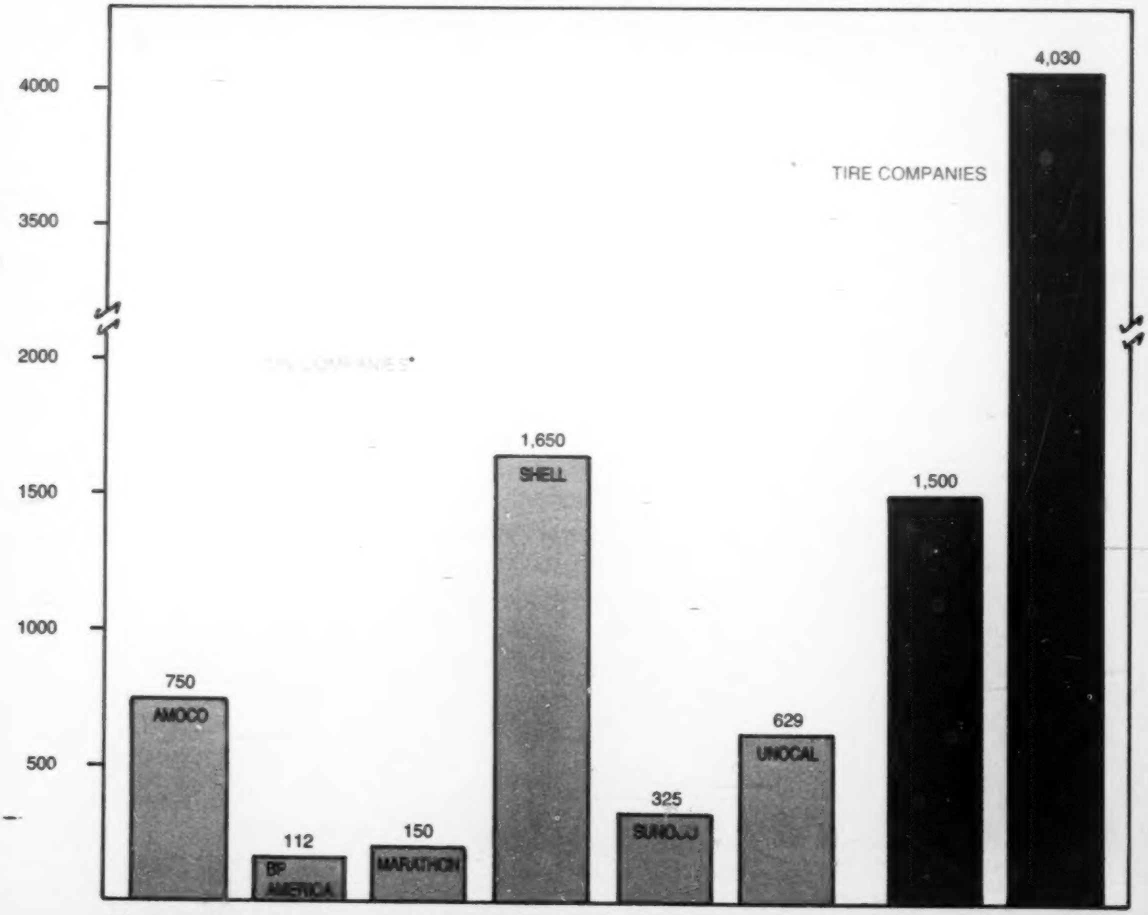
Shell has a "territory team" program that seems to work in TBA, but perhaps not as well as a dedicated force. In each 35-40 station territory, sales representatives have full responsibility for all the activity that goes on there, including TBA. Success of such a system, from the TBA point of view, depends on watching priorities very carefully. Many such programs have failed to do so.

Former Shell TBF manager (tires, batteries, filters and chemicals) Bob Myrick was impressed by the dedicated TBA sales force concept. "I think it's kind of a neat idea to be honest with you," he said shortly after Amoco and Exxon adopted such programs.

"I think it puts quite an increased focus on the TBA activity, whereas if you leave it with a territory team, the territory sales reps have many, many activities. Everything gets prioritized so you're constantly competing for the rep's time. I think that when you put it in the hands of a focused rep who is totally responsible for TBA, there's increased emphasis there."

The spread of dedicated TBA sales forces seems likely to go along with the success of oil companies in TBA, if that is their destiny. At any rate, the dedicated sales force concept

MAJOR COMPANY CAR CARE CENTERS



* Figures represent only franchise or "image" car care programs, not all traditional auto service outlets.

appears to be a winner.

TBA for jobbers?

Petroleum and TBA jobbers and distributors have suffered, in some cases, because of oil-company withdrawals from TBA programs, but also because of radical changes in the service station business, including a shrinking population.

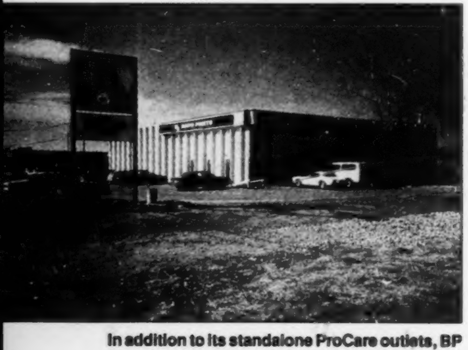
TBA has never been easy, and in some respects it's now harder. TBA involves a long line of complicated products and a variety of competitors and each line is a tough nut to crack. Pricing, merchandising and distribution are often more complicated than anything involved with petroleum.

Gary Shoop, former Mobil TBA distributor, is still in the TBA business, although he says he hasn't had as good a year since Mobil canceled the program in 1982. This is despite the fact that he has acquired five other former Mobil TBA distributorships in the Los Angeles area whose owners got old or lost interest.

"Opportunities are moving away from service stations and toward independent garages," he observes. This is likely happening all over the country and there's no easy solution for it.

Another reason for the decline in service-station TBA business for some distributors is a large increase in the number of foreign-origin dealers and their clannishness, Shoop says. "There are probably 300 Korean dealers in the Los Angeles area," he explains, "and they buy only from Korean TBA distributors." He thinks maybe he should hire a Korean salesman.

Sunoco, which has both kinds of TBA jobbers, those who handle TBA exclusively and those who also sell petroleum products, says it's a good business for the jobbers, but "it's not an easy one. The good ones are making a lot of money, the bad ones are struggling."



In addition to its standalone ProCare outlets, BP America has opened a fully-equipped parts house, including a machine shop, in Toledo.

If oil companies begin adding TBA programs, some new opportunities will open up for oil jobbers.

To the extent that oil companies initiate or expand warehouse distribution, such as BP America and Amoco, jobbers will be left in the cold. However, there's still plenty of room for some conventional jobbers with TBA.

Jobbers supplied by oil companies that market exclusively through jobbers, such as Phillips and Citgo, stand to profit by growing management interest in TBA.

TBA: how important?

It isn't necessarily clear why a TBA program is considered vital to an oil company. A few years ago there was an industry-wide debate on whether TBA was profitable for an oil company. Some companies opted to get out.

The principal dropouts were Mobil, Conoco, Champlin, Fina, Texaco, Arco and Ashland, plus two smaller companies, Quaker State and Pennzoil, which handled tires.

There are special circumstances behind some of these decisions, mostly having to do with buyouts by non-oil companies, but in most cases it appeared management wasn't interested, for whatever reasons, in the TBA concept.

Says Chevron's Mavrakis, "There was a helluva lot of argument about 10 years ago about whether or not TBA was profitable. Those of us that stayed are making it happen."

By now it has become evident in a number of cases that TBA, even if perhaps not as profitable as some would like, is often the glue that holds the company's station network together.

Gary Shoop, president of Shoop & Luther, Torrance, Calif., and former Mobil TBA distributor, says, "Mobil stations were considerably weakened by the TBA pullout. They don't merchandise anymore, the bays are dead or dying, the looks have turned seedy. Company management doesn't know about such results, on which you can't put an economic value. Management doesn't realize how much a TBA program does for the station network."

There are more considerations than profitability. Chuck Chace, Sunoco's TBA manager, says, "A $50-million-a-year department (his) has little bearing on a corporation with in excess of a billion dollars a year (Sun). We're here because we support the Sunoco brand and add some consistency to image and provide a service to the dealer. We make a lot of money compared to a small business, but a little money for an oil company."

Starting its Auto Care program in 1974, Shell was the pioneering oil company in franchised car service. Shell still has the most franchise outlets with 1,650.

What's ahead

Expansion of car-care programs by oil companies is the most visible demonstration of their growing interest in the automotive aftermarket, but there is also a broader reawakening of interest in TBA generally.

The International Oil-Industry TBA Group, which some thought was threatened with extinction a few years ago, is showing signs of renewed strength. This is where the oil-company TBA people and their suppliers get together and the group's health reflects the health of TBA in the oil business.

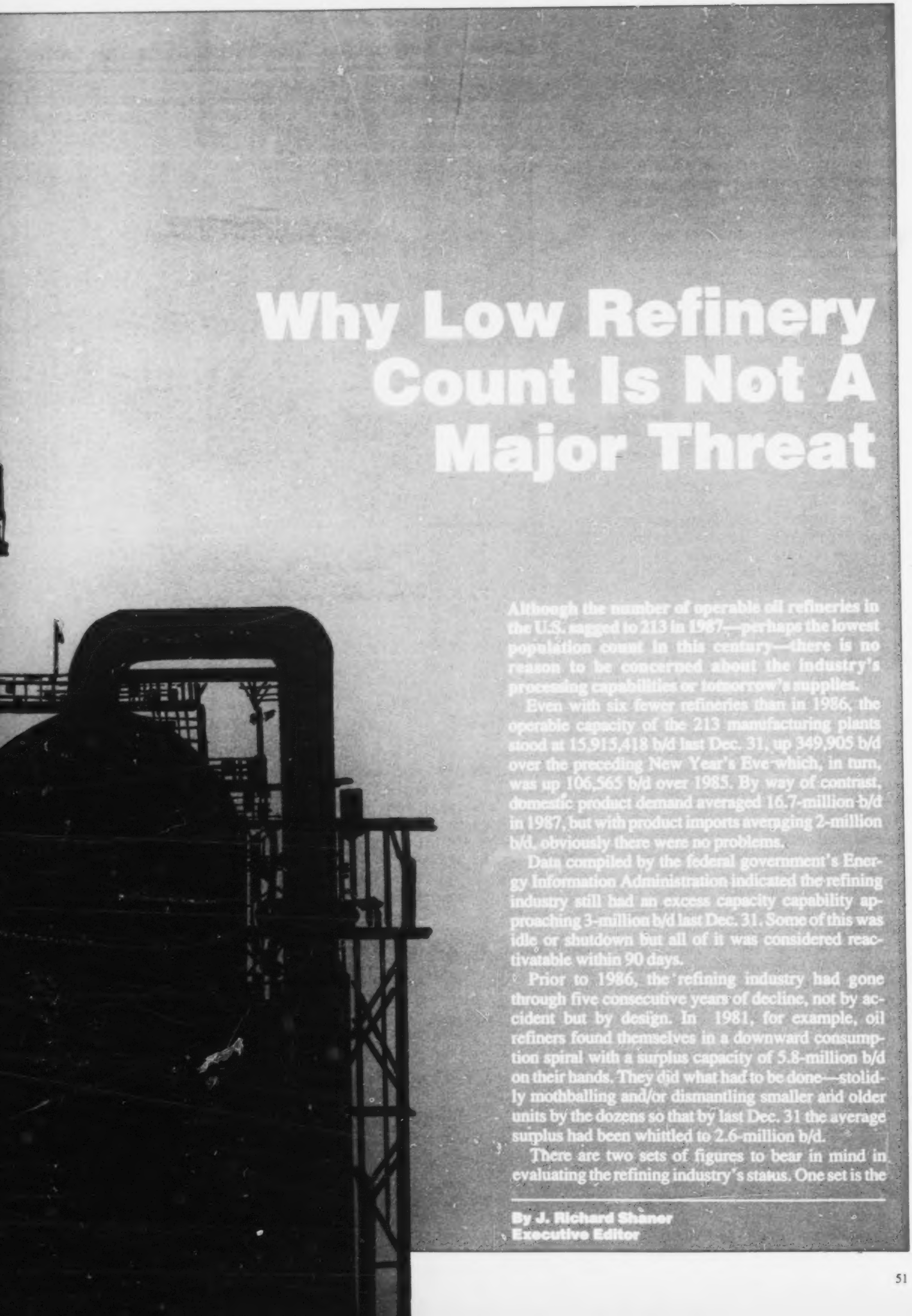
Sunoco's Chace notes, "There are more supplying companies represented (in the group) than there used to be and more supplier people. And there are more oil company people than there used to be, though not representing additional oil companies."

Gene McGinty, Citgo TBA manager and 1987 chairman of the group, was one of several oil-company and supplier people who recognized at the group's convention in San Diego last year that TBA was on a comeback in the oil business. He says now, "It's clearer than ever that the service segment of the market, which lacks capable facilities, has drawn the attention of management . . . We have seen the pendulum swing. We're going full circle again."

Jim Taylor, manager of oil-company sales for Cooper Tire, says, "We have seen over the last two years a lot more emphasis put on TBA at the oil companies. They are doing more training for their dealer networks, providing more promotional materials, and just paying a lot more attention to the TBA business."

Car-care programs—such as: ProCare, Certicare, Auto Care, Ultra, Protech and others in the making—are the showpieces of this rebirth.

Why Low Refinery Count Is Not A Major Threat



Although the number of operable oil refineries in the U.S. sagged to 213 in 1987—perhaps the lowest population count in this century—there is no reason to be concerned about the industry's processing capabilities or tomorrow's supplies.

Even with six fewer refineries than in 1986, the operable capacity of the 213 manufacturing plants stood at 15,915,418 b/d last Dec. 31, up 349,905 b/d over the preceding New Year's Eve which, in turn, was up 106,565 b/d over 1985. By way of contrast, domestic product demand averaged 16.7-million b/d in 1987, but with product imports averaging 2-million b/d, obviously there were no problems.

Data compiled by the federal government's Energy Information Administration indicated the refining industry still had an excess capacity capability approaching 3-million b/d last Dec. 31. Some of this was idle or shutdown but all of it was considered reactivatable within 90 days.

Prior to 1986, the refining industry had gone through five consecutive years of decline, not by accident but by design. In 1981, for example, oil refiners found themselves in a downward consumption spiral with a surplus capacity of 5.8-million b/d on their hands. They did what had to be done—stolidly mothballing and/or dismantling smaller and older units by the dozens so that by last Dec. 31 the average surplus had been whittled to 2.6-million b/d.

There are two sets of figures to bear in mind in evaluating the refining industry's status. One set is the

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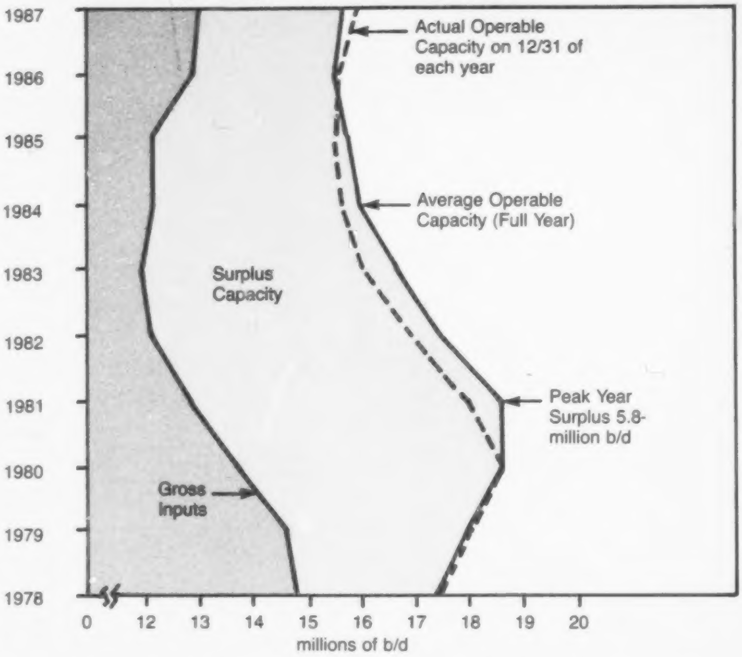
By J. Richard Shaner
Executive Editor

Refinery Surplusses: The Silhouette's The Same



Source: Energy Information Administration, Petroleum Supply Annual 1987, Volume 1, published May 1988.

average data for the full year, obtained by taking the 12 monthly reports and annualizing them. The other is the actual operable capacity on a given date, in this case Jan. 1 of each year. The two sets of numbers vary somewhat and this leads to a certain amount of confusion about which is which, (see graph on right).

In substance, however, the refining industry was in good shape at the end of 1987. The surplus of 2.9-million b/d was not considered to be excessive, even though there are some who would like to see the surplus whacked down by another 1-million b/d. This would enable the "surviving" plants to improve their utilization rates, meaning optimum efficiencies and higher profits for the refining industry.

For example, most refineries are designed for greatest efficiency and profitability when their utilization rates are in the 85-90% range. The industry utilization rate in 1987 was 83.1%, up only two-tenths of a per cent over 1986 but much better by far than the doleful 68.5% registered in 1981. In the 1960s and early 1970s, utilization rates as high as 90-92% were commonplace. A handful of U.S. refineries are doing that well right now.

Getting back to the population count, the current total of 213 refineries is the lowest on record—except, of course, for the time in the late 1800s when the numbers were moving up from ground zero. American Petroleum Institute's Petroleum Facts & Figures, published in 1959 and covering the first 100 years of oil shows there were as many as 373 refineries in 1920, the earliest year for which it had numbers. The peak year seems to be 1936 when there were 632 refineries in operation—most of them absolute "tea kettles" by today's standards.

The EIA, in routine fashion, also reported that nine refineries were shut down in 1987, four were reactivated and one was merged with another in California. This gave the industry a net loss of six plants for the year. Except for one, all of the shutdowns ranged from 11 to 39 years in age.

Here's a readout on the losers and winners in 1987.

Closings:

- Beacon Oil Co., Hanford, Calif., 17,300 b/d of crude distillation, 11,380 b/d of downstream capacity; age: 27 years.
- Clark Oil & Refining Co., Mt. Airy, La., 27,000 b/d downstream; age: 39.
- Flying J Petroleum, Williston, N.D., 4,600 b/d crude, 5,450 b/d downstream; age: 32.
- Lakeside Refining Co., Kalamazoo, Mich., 5,600 b/d crude; age: 39.
- MacMillan Petroleum Co., Norphlet, Ark., 5,800 b/d crude, 2,700 b/d downstream; age: 39.
- Sabre Refining Co., Bakersfield, Calif., 10,000 b/d crude; age:16.
- Silver Eagle Oil Co., La Barge, Wyo., 3,000 b/d crude; age: 13.
- Virginia Oil & Refining, Jonesville, Va., 1,000 b/d crude; age: 2.
- Western Oil & Refining, Long Beach Calif., 19,200 b/d crude; age 11.

Totals: crude 66,500 b/d; downstream 46,530 b/d.

Reactivations:

- Donna Refinery Partners Donna, Texas, 4,750 b/d crude.
- GAMXX Energy Corp., Theodore, Ala., 27,000 b/d crude; 10,000 b/d downstream.
- Petro Source Resources, Vicksburg, Miss., 6,000 b/d crude, 7,900 b/d downstream.
- Trans America Refining Co., Good Hope, La., 300,000 b/d crude, 520,000 b/d downstream.

Totals: Crude 337,750 b/d; downstream 537,900 b/d.

Reclassified:

- Paramount Petroleum, Bakersfield, Calif., 20,500 b/d crude, 34,800 downstream. This plant was sold to Texaco Refining & Marketing and merged with Texaco's Bakersfield refinery.

Refinery Nose Count '78-'87: Low, But No Worries

			In millions of b/d				
Year	No. of Refing.	Util. Rate	Gross Inputs	Avg. Oper. Cap.	Actual Capacity 12/31	Avg. Surplus (Full yr.)	Actual Surplus 12/31
1987	213	83.1%	13.0	15.6	15.9	2.6	2.9
1986	219	82.9	12.8	15.5	15.6	2.7	2.8
1985	216	77.6	12.2	15.7	15.5	3.5	3.3
1984	223	76.2	12.2	16.0	15.7	3.8	3.5
1983	247	71.7	11.9	16.7	16.1	4.8	4.2
1982	258	69.8	12.2	17.4	16.9	5.2	4.7
1981	301	68.5	12.8	18.6	17.9	5.8	5.1
1980	324	75.0	13.7	18.6	18.6	4.9	4.9
1979	319	84.0	14.6	18.0	18.0	3.1	3.1

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September 1988

What You Should Know About Truck Rentals

How Video Training Saves Employers Money

Why Crown Central Bears Watching

NPN

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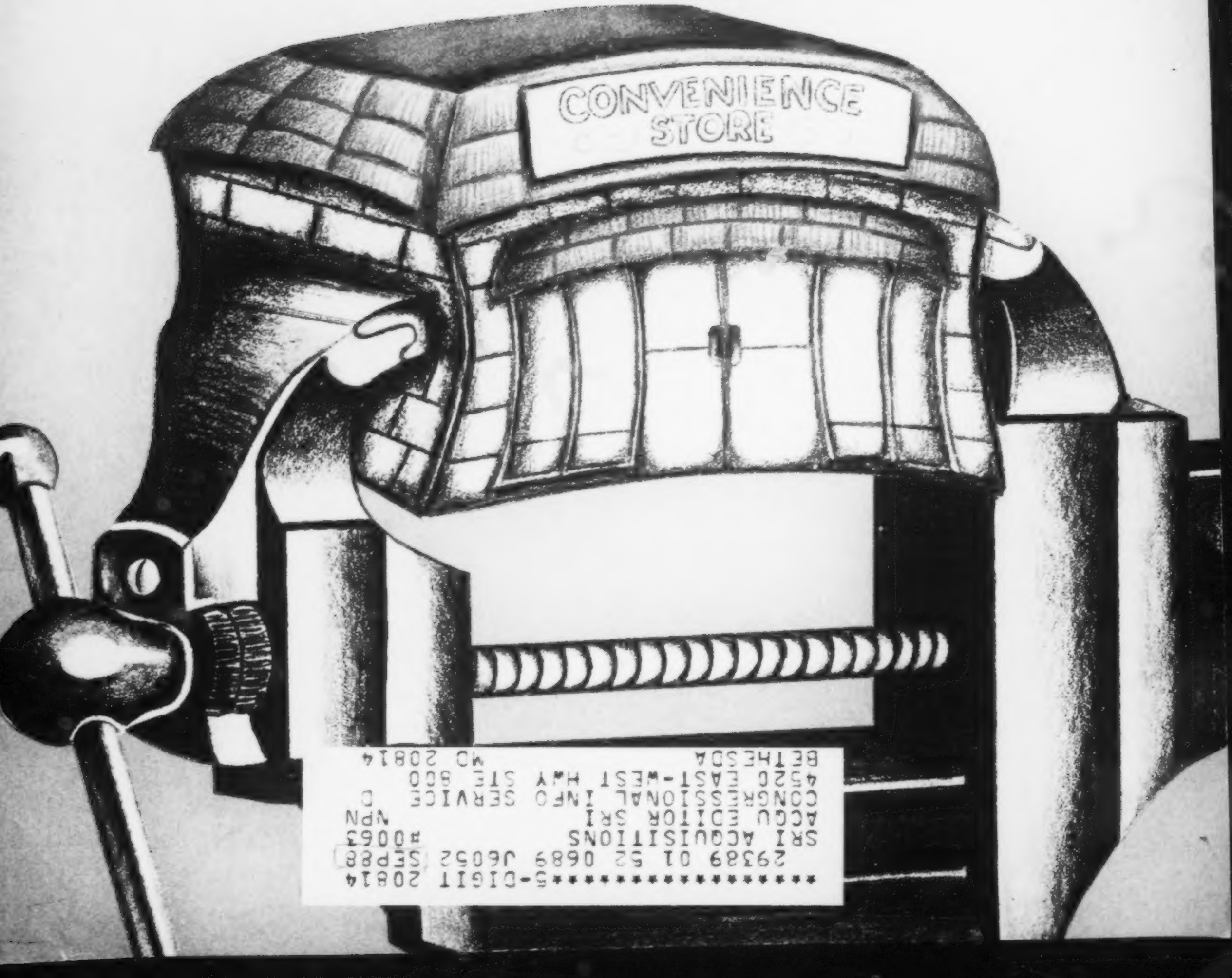
In C-Store [illegible]



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NATIONAL PETROLEUM NEWS
Established in 1909

VOL. 80 **NO. 10**

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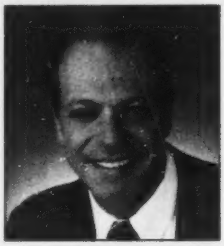

Editor's Viewpoint

Back when petroleum marketers first began operating convenience stores at their gasoline stations, competition was relatively mild. C-store sales were strong and high profit margins common. Those happy times lasted quite some time, all things considered. But others—lots of them—were eventually attracted to the market and the result was inevitable.

Competition increased, price cutting began and profit margins shrunk. Meanwhile, the cost of starting a C-store jumped. According to the National Assn. of Convenience Stores, average C-store profits dropped almost 17% between 1984 and 1987, while the average cost of opening a new store in an urban area increased by about 37-1/2%. A nasty combination.

That's for openers. A new element has been added. The majors and large independent oil companies have been involved in C-stores for some time. However, as this month's cover story points out, they are now apparently rolling into the market in a big way. What they have working for them is a massive inventory of excellent locations (bought when land prices were much lower). Traditional C-store chains will be hard pressed to match them and some industry observers state flatly that on this basis alone the chains are already in trouble. In addition, the chains must contend with independent jobbers who also have many good locations and plenty of C-store experience.

Convenience store chains are under the gun. However, jobbers will no doubt feel the pressure as well. As the oil companies increase their presence in the C-store market and the chains fight to hold their turf, the competition will become even more fierce than it has in the past few years and sales and margins are bound to suffer. Stores will be added in already overbuilt markets and the process will probably spill over into less saturated areas. There is speculation that we'll have a replay of what happened in the service station market before the oil shocks of the 70s and the eventual shake out that followed.

Some marketers saw the handwriting on the wall early and began shying away from the C-stores. Others have gradually followed suit. That doesn't mean the C-store business is a dead issue for jobbers. But the glory days of fast, relatively easy profits are over. Jobbers who now have C-stores on good locations or in areas where the market is not overbuilt will fare reasonably well in most cases. Many of them already have a good pay back on their investment and can accept lower sales and margins. But those who are considering new stores should think and rethink the idea and be very cautious if they proceed. The way the market seems to be shaping up, there will be very little room for error. And a mistake will be very costly.

—Frank M. Victoria

National Petroleum News (NPN) (ISSN 0149-5267) is published monthly by Hunter Publishing Co., Inc., 950 Lee Street, Des Plaines, Illinois 60016. (312) 296-0770.

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.

Basic **subscription rates** for one year to individuals in the petroleum marketing industry are: U.S. $54; Canada $63 (U.S. $); Foreign surface mail $69 (U.S. $); Foreign airmail $104 (U.S. $). Non-industry personnel rates for one year are: U.S. $69; Canada $78 (U.S. $); Foreign surface mail $84 (U.S. $); Foreign airmail $128 (U.S. $); **Single copy price:** U.S. & Canada $8.00 (includes first class postage). Foreign $10.00 (includes airmail postage). **Mid-June Factbook:** U.S. $50; Canada $60; Foreign $70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S patent office. **Change of address:** Notices should be sent promptly; provide o. mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (312) 296-0770, 9 a.m. to 4 p.m.

Postmaster: Send address changes to NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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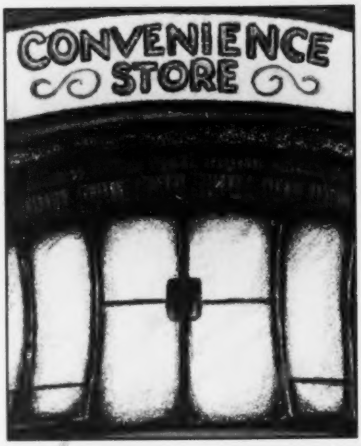

The big oil companies may have been late to the convenience store game, but they're making up for lost time and threaten to become a dominant force in the C-store market with their advantages of location and oil-derived resources. **Page 40**

Approximately 17-million U.S. households will move this year and 4.5-million of those will hire a do-it-yourself truck for the job. Here's another opportunity for marketers looking for diversified profit streams. **Page 48**

Crown Central Petroleum Corp., now out of debt and flush with investment capital, is shooting for bigger gasoline volumes in the rich East Coast market. But it will have to tough it out against some hardball competitors. Page 52

Good Second Quarter Upstream and Downstream

The return of good times in the first quarter found their counterpart in the financial reports of most major oil companies in the second quarter as well. A number of companies made no bones about it: Downstream earnings were the prime reasons for good corporate profits as a whole.

At least four oil companies have already earned more than $1-billion so far and three more are likely to join them during the third quarter underway. The billion dollar biggies so far are Exxon, Chevron, Shell and Amoco. Not far behind and ready to join them are Mobil, Texaco and Arco.

The possibility of peace in the Middle East could mean an even brighter picture because an ease in tensions might bring an improvement in crude oil (and, consequently, marketing) prices. If so, the current year could end up as the industry's most profitable yet.

Upstream: Most Nets Are Gold-Plated

	2nd. Qtr. 1988	2nd. Qtr. 1987	% Chng.	1st. Half 1988	1st Half 1977	% Chng.
			(millions of dollars)			
Exxon	$1,200.0	$1,150.0	4.3%	$2,655.0	$2,222.0	19.5%
Mobil	487.0	304.0	60.2	992.0	556.0	78.4
Chevron	520.0	358.0	42.3	1,173.0	719.0	63.1
Texaco	527.0	129.0	308.5	769.0	247.0	211.3
Shell	263.0	266.0	(1.1)	1,509.0	374.0	303.5
Amoco	667.0	311.0	114.5	1,136.0	571.0	98.9
BP-America	596.0	430.0	38.6	1,330.0	929.0	43.2
Arco	400.0	330.0	21.2	801.0	569.0	40.8
Tenneco (a)	154.0	46.0	62.0	217.0	75.0	189.3
Conoco	62.0	33.0	87.8	97.0	48.0	102.1
Sun	(201.0)	90.0	—	(141.0)	128.0	—
Phillips	170.0	3.0	556.7	300.0	(29.0)	—
Unocal	64.0	62.0	3.2	242.0	193.0	25.4
Marathon*	120.0	218.0	(44.6)	204.0	333.0	(38.7)
Coastal (a)	30.6	23.3	31.3	77.1	66.4	16.1
Amerada Hess	(23.5)	89.4	—	42.2	270.9	(84.2)
Ashland**	56.9	40.0	42.2	148.6	67.9	118.9
Diamond Shamrock	11.9	2.2	440.9	7.1	4.9	44.9
Pennzoil	1,388.7	7.8	17,774.0	1,400.0	21.7	6,446.0
Kerr-McGee	35.8	27.3	31.1	46.1	47.5	(2.9)
Murphy	9.4	7.1	32.4	3.0	10.2	(70.6)
Amer. Petrofina	39.4	28.7	19.9	64.8	48.5	33.6
Citgo	33.9	22.8	48.6	75.7	71.2	6.3
Getty	NA	NA	NA	NA	NA	NA
Cumb/Gulf	NA	NA	NA	NA	NA	NA

* Operating income; ** 3rd qtr., fiscal ends 9/30; (a) Corporate, includes oil company operations.

Downstream: These Nets Are Rosy Too

			(millions of dollars)			
Exxon	281.0	19.0	1379.0	712.0	55.0	1194.5
Domestic	100.0	(19.0)	—	194.0	57.0	340.0
Foreign	181.0	38.0	376.3	518.0	112.0	362.5
Mobil	260.0	84.0	209.5	477.0	162.0	194.4
Domestic	89.0	17.0	423.5	190.0	19.0	1000.0
Foreign	171.0	67.0	155.2	287.0	143.0	100.7
Texaco	215.0	18.0	109.4	368.0	24.0	143.3
Domestic	108.0	(12.0)	—	200.0	(67.0)	—
Foreign	107.0	30.0	256.0	168.0	91.0	84.6
Chevron	123.0	22.0	459.0	322.0	8.0	3925.0
Domestic	91.0	(6.0)	—	225.0	(52.0)	—
Foreign	32.0	28.0	14.3	97.0	60.0	61.7
Shell	103.0	56.0	83.9	233.0	64.0	264.1
Amoco***	206.0	55.0	274.5	312.0	50.0	524.0
Arco	72.0	45.0	60.0	159.0	70.0	127.1
BP-America	312.0	211.0	47.9	564.0	502.0	12.4
Conoco	75.0	31.0	141.9	152.0	71.0	114.1
Phillips*	98.0	48.0	104.2	172.0	78.0	120.5
Sun	79.0	21.0	276.2	121.0	16.0	656.5
Domestic	78.0	15.0	420.0	118.0	3.0	3833.0
Foreign	1.0	6.0	(83.3)	3.0	13.0	(76.9)

* Operating income, pretax; *** Worldwide.

• TRENDS

China And Coastal Corp. In West Coast Venture

Another oil-producing country has joined a U.S. oil company in a joint refining and marketing venture—China. Sinochem, owned by the People's Republic of China, agreed to acquire 50% of Coastal Corp.'s West Coast refining and marketing properties for and undisclosed sum of cash. The properties consist of a 55,000 b/d refinery at Hercules, Calif., in the San Francisco Bay area; fuel-oil terminals at Los Angeles and Coos Bay, Ore.; and wholesale marketing operations at San Francisco, San Pedro, and Long Beach, Calif., and Portland, Ore. Storage at the refinery is 2.2-million bbl. and at the terminals 1.4-million bbl.

With Chinese capital, Coastal will push to acquire a West Coast service station chain, says Jack C. Pester, senior vice president for refining, marketing and supply. The company is also preparing a national branded jobber program. Coastal has been expanding its station chain in other parts of the country, but hasn't managed to break into the West Coast retail market. This will likely change soon.

Coastal now has 900 stations nationwide and is expanding fast. It has a multimillion-dollar program to identify all its retail stores as C-Mart. The stores have operated under nine different brand names, such as Derby, Joy, Pester, Wag-A-Bag, Sunshine, and Premier.

As for jobbers, Pester says, "We are not ready to really introduce what the program is, but we're on the verge of redoing a branded jobber program and so obviously we are interested in the jobbers out there (on the West Coast)."

Pester says he's interested in the 10 Texaco and 11 Exxon jobbers left without suppliers in a swap of stations between the two suppliers. Their termination is set for Oct. 31, 1988, and Pester indicated Coastal may contact them before then. The swap may be held up, however, by a suit filed by Exxon and Texaco dealers to halt the deal.

Among West Coast marketers, feelings are mixed about the Coastal-Chinese venture. Herb Richards, president of Coast Oil, a large independent chain based in San Jose, Calif., says it "might help independents by giving us one more supplier to buy from." He says Pacific Refining has substantial storage and could import Chinese gasoline and other refined products in addition to processing Chinese crude. He doesn't see any effect at all for a while because "it takes forever up here to get approvals to do anything to a refinery."

A southern California independent who asked not to be named thinks the venture will tear up the market. "I've been following Oscar Wyatt (Coastal's chairman and CEO) for 30 years and he has disrupted every market he's gone into," he says.

Meanwhile, California producers are concerned their market will shrink even more than it already has by more than 1-million b/d of crude from Alaska and a lot more expected from California offshore fields in the 1990s. Executive vice president of the California Independent Producers Assn., Tom Hunt, calls the joint venture "dangerous" because it "increases the country's dependence on foreign crude." He says CIPA will intensify its efforts to obtain an export license for California producers "because I don't know where else the California independent is going to go." The West Coast crude surplus is expected to last into the next century.

Pacific Refining processes Alaska North Slope crude mainly, with some Californian. A major company source says Pacific Refining is price-conscious and not committed to buy Chinese crude unless the price is right. Coastal says a crude supply agreement with Sinochem is being negotiated.

Analysts view Coastal's deal as another sign that oil producing countries and major oil firms expect low crude prices indefinitely and see their best profits in refining and marketing in combination with a stable, favorable crude supply arrangement. Besides joint ventures with U.S. oil companies by Venezuela and Italy, Saudi Arabia has agreed to joint ownership of three Texaco refineries and marketing properties in Eastern and Gulf Coast states. More Texaco joint ventures may be ahead. An executive of a nationwide brokering service says a "very good source" reports Texaco is holding talks with Japan and Kuwait for joint ownership or sale of some or all of its West Coast properties.

—by Mark Emond

• MARKETPLACE AT A GLANCE

AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

JUNE	Gasoline (All Types)	Leaded Regular	Unleaded Regular	Unleaded Premium
U.S. City Avg.	$0.971	$0.910	$0.955	$1.111
Regions				
Northeast	.984	.902	.948	1.120
North Central	.971	.927	.964	1.115
South	.957	.885	.936	1.096
West	.979	.927	.974	1.123

Source: U.S. Dept. of Labor, Bureau of Labor Statistics

STOCKS (Add 000 bbl.)

	7/29/88	7/31/87
Gasoline (Total)	209,795	229,628
Gasoline (Unleaded) *	130,845	135,655
Jet Kerosine	39,701	40,167
Distillates	117,967	114,364
Residual	40,659	42,863

** Included in gasoline total*

Source: American Petroleum Institute

the non-Indian retailers who must compete with them. It's a safe bet to say that this is going to be in the courts for awhile yet."

Sun-Atlantic Deal Alters Mid-Atlantic Market

When it's completed this fall, Sun's deal to buy Atlantic Refining & Marketing Corp. is going to have greater impact in the three Mid-Atlantic states—New York, Pennsylvania and New Jersey—than anywhere else.

Sun will, for example, have 3,165 stations in the three states. By way of comparison, Mobil will have 2,979; Gulf (Cumberland Farms), 2,511; Texaco, 1,664; Exxon, 1,550; and Shell, 578.

In addition, Sun will jump from No. 4 to No. 1 in Pennsylvania, vaulting over Mobil, Gulf and Texaco in that order. In New York, Sun will still be in second place behind Mobil but the difference will be 250 stations, not 500 or so as in the past. In the state, Mobil currently has 1,491 stations while Sun will have 1,243.

There's really no change of significance in the station totals in New Jersey. But, and this is a big but, the fact that Sun will have another refinery in the Philadelphia area available can't help but make a difference in product availability down the road. Also, this refinery can handle sour crude which normally is priced at less than sweet crude in the marketplaces. Here's how the leaders stack up in the three states:

	Pa.	N.Y.	N.J.
Sun (orig.)	793	987	457
(buying)	657	256	15
Total	1,450	1,243	472
Gulf	877	832	772
Mobil	985	1,491	503
Texaco	795	454	415
Exxon	764	286	538
Shell	100	194	284

By Peggy Smedley
MIDWEST

Dealer Lease Cancellation Creates Community Uproar

Dealer lease terminations aren't exactly uncommon, but they do occasionally still create a fuss. That's what happened when Amoco Oil Co. canceled the lease of Frank Del Medico, a 31-year Amoco dealer in Chicago, and provoked a serious protest in his local community.

Amoco says Frank Del Medico was late with 22 payments before his lease was terminated July 14. But that didn't carry a lot of weight for residents of Norwood Park, a community in Chicago where Del Medico's station was located.

Frank Del Medico

More than 7,000 neighbors and friends, who live near Frank's Standard Station at 5737 Northwest Hwy., signed petitions and staged a rally asking Chicago-based Amoco to rescind its decision and allow the family-owned business to continue.

In the community, Frank, his son David and his brother Jim were more than just service station dealers, says Marlene Brown, executive director of the Norwood Park Chamber of Commerce. Brown, who headed the campaign to keep the Del Medico's in business says, "Amoco made a big mistake."

Despite all the community objections, Amoco says a federal court ruling reinforces the oil company's position affirming that Del Medico violated his financial obligations when he failed to make his $3,500 monthly lease payments on time.

In June, the Chamber of Commerce offered to manage a bank account for the dealer to assure the monthly payments would be on time; however, Amoco rejected the proposal after promising the station to another branded dealer. The station is now being operated by Bill Venturini, who also operates two other Amoco stations. Venturini opened up shop July 15. Amoco says the station will continue to operate as a traditional service outlet.

"When they [Amoco] want you out they will get you out," says Frank, who's three-bay service station sold 1-million gal. gasoline a year.

Amoco admits that Del Medico was a good dealer and well-liked by the community. However, Bob Roemer, an Amoco spokesman says, "A business decision was made. Terminating a lease is something we don't take lightly. He was a good dealer, but he really forced our hand."

Because Del Medico was a "good" dealer for so many years, Amoco took "unprecedented" action when it agreed to give Del Medico a second chance in 1986, even after he was late 19 times with his rent payments. Amoco granted the request under the condition that Del Medico sign an agreement stating that his payments would be on schedule or his lease would be terminated, industry sources say.

Under the terms of the accommodation contract, Del Medico agreed to voluntarily terminate his contract if his payments were late. Five-months after signing the agreement Del Medico was approximately 15 days late with his payment and Amoco terminated the lease.

Del Medico was delinquent a total of three times during the 18-months since the second contract was entered into. After a yearlong legal battle, on Aug. 15, 1987, a federal court judge ruled in favor of the oil company. On April 14, 1988, Del Medico's lease was discontinued and he was given 120 days to pack up. The court also awarded Amoco damages, but the major declined to pursue the monetary award if Del Medico agreed not to appeal and would accept the termination without continuing the legal battle.

Frank's brother Jim says, Amoco also violated its contractual agreement when it failed to deliver—on several occasions—credits owed to the Del Medicos', deliveries on gasoline and other supplies on time. He says sometimes the major was late as much as six months. "Amoco feels what they do is fine and what we do is wrong," Jim says. "Since the 1970s, Amoco has changed its philosophy. It doesn't care about dealers anymore."

Del Medico meanwhile has opened up a repair shop about a 1/2 block away from his previous standard station. "I'm going to be open from 6 a.m. to 11 p.m. seven days a week. I'm hardheaded and I won't give up so easily," says Frank. Del Medico is also looking to open another gasoline station, possibly with another oil company, but he says nothing has been finalized.

Indiana Marketers Hit Hard By Price Wars

The price of a gallon of gasoline in Indiana has "never been so crazy" says one local jobber. During the first week of July, postings

NPN

NATIONAL PETROLEUM NEWS September 1988

Divorcement, Open Marketing Seen As Multi-Billion Dollar Pitfalls

A new study by a small but potent Washington group hypothesizes that Maryland-style divorcement legislation, if enacted in all 50 states, would add at least $3-billion a year to consumer costs for motor fuels.

In its conclusions, the group paraphrased an editorial commentary in the Atlanta, Ga. Constitution which describes retail divorcement as a "terrible idea" whose prime purpose would be to "separate motorists from their money."

Retail gasoline marketing divorcement is an "idea without substance or merit," the study states, adding:

"It represents a legislative intrusion into a highly competitive marketplace, for reasons that are not borne out by the facts.

"State officials and federal regulatory agencies have testified that no evidence exists of predatory pricing by oil companies—pricing designed to drive independent gasoline retailers out of business. And that testimony is confirmed in academic and industry studies.

"The consequences of divorcement laws are higher prices and lower levels of service."

The carefully documented study almost sounds as though it had been prepared for or paid for by a coalition of major oil companies, or perhaps the industry's principal trade association, the American Petroleum Institute. The subject is controversial in the petroleum industry, make no mistake about that with many retailers and their associations seeking legislative relief and refiner-suppliers universally opposed to such marketplace restrictions. In 1987, 15 states considered divorcement bills. Nevada and Georgia enacted laws, but the Governor vetoed the Georgia bill just as he did in 1984. Nine states are considering divorcement bills now but none have been enacted so far this year.

The fascinating part of this study is that the group that did it, The American Legislative Exchange Council, is totally independent of oil as an industry and API and/or any other association, including the two marketing biggies—Petroleum Marketers Assn. of America, and the Society of Independent Gasoline Marketers of America. As a matter of fact, all three associations confessed that they were "aware" of the council but really didn't know much about it.

The council is not a Johnny-Come-Lately on the Washington scene either. It has been doing business there for the past 15 years and it is known as a "very conservative" organization dedicated to the advancement of free enterprise.

It's small, with a staff of 22 and an annual budget of $2-million or so. Its funds come basically from membership fees, $25 a year, and legally authorized solicitation of funds from endowments, foundations and private businesses.

"We're not particularly interested in the oil or energy businesses," a spokesman says, "although we do have some oil company contributors; maybe as many as a half-dozen, I'm not sure. But we are not a lobbying organization, and we do not take sides or positions on legislative bills or proposals at federal and state levels."

He explains that the council's membership is made up of individual legislators in all 50 states, not all of them by any means, but at least 1,900 of 7,400 that would nominally be eligible.

"Remember what I said," the spokesman adds. "These are individual memberships paid for or renewed annually by the legislators themselves, not their state governments or political parties. Their memberships are voluntarily and they can renew or drop out as they see fit.

"What we do is provide them with a legislative network and legislative trends. Our newsletters keep them informed on what's going on in various states and we provide them with debating platforms and forums devoted to specific subjects or trends."

The council's activities are directed by a board of 22. This year's chairman is David Halbrook, a Democrat and a member of Mississippi's state legislature.

The current study, "Retail Divorcement: Separating Motorists From Their Money," was prepared by Roop Mohunlall, director of the council's State Legislator Task Force on Energy, Natural Resources and the Environment."

"We've only done one or two energy-type studies in the past," he says. "We did this one because we thought it was an appropriate one to do. We did it on our own initiative too, not on anyone else's suggestion or recommendation."

The issue of divorcement i.e., the banning of retail gasoline marketing by integrated oil companies, has blown hot and cold in state legislators and at the federal level for years. For example, divorcement was a major congressional issue in the mid '30s.

The study notes that at least 41 states have considered divorcement legislation since 1974 and that six of them as well as the Dis-

(Continued on page 30)

C-Store Industry Remains Healthy But Shows Signs Of "Maturing"

The number of convenience store outlets and total dollar volume they generated increased substantially in 1987. However, there were also some worrisome profit leaks in the C-store industry roof according to the "1988 State of the Convenience Store Industry" report released this summer by the National Assn. of Convenience Stores.

About three months ago, NACS released selected highlighted data from its 1988 study [*NPN*-Aug '88, p25]. Data from that brief summary showed total C-store sales (gasoline included) increased to $59.6-billion in 1987, up 10.6% from 1986. The number of C-stores grew 5.4% for the year to a total of 67,500.

Gasoline sales, which were up 14.6% to $20.5-billion for the year, accounted for the lion's share of the overall increase, according to NACS. Non-gasoline sales were up 2.7% in 1987.

But this good news was offset somewhat by data featured in the complete NACS study released later. Despite the fact that total sales increased by over $5-billion, the association says, total industry profits before taxes declined from $1.4-billion in 1986 to $1.3-billion in 1987, a drop of 6.3%.

(Continued on page 30)

(C-Store . . . continued from page 29)

Average store profits dropped to $19,200 in 1987 from $21,900 the year before. NACS ascribes this shallower profit stream to higher operating costs, plus slimmer margins on gasoline sales.

On a per-store basis, pretax profits were down from 2.6% in 1986 to 2.2% in 1987, a development NACS attributed to a dropoff in average gross profit from 25.1% to 24.4% (see table). The report pinpoints a decline in gasoline margins—down from 11.2% to 10.6%—as a key factor, noting that in-store margins held steady in 1987 at close to 36%.

The average margin on gasoline for a C-store declined from 9.5¢ a gal. in 1986 to 9.1¢ in 1987. The average selling price per gallon in 1987 was $0.88 versus $0.85 the year before.

"Although there was an increase in the cost of (gasoline) in 1987," NACS says, "competitive pressures prevented the industry from increasing prices sufficiently to cover the total increase in cost."

Excluding gasoline, average store sales increased by 2.7% in 1987 to $579,000. This works out to a rate of $11,140 per week. Converting this to average sales per week per square foot, the study says stores increased their average sales of $3.54 in 1986 to $3.76 in 1987. Average sale per customer, excluding gasoline, was up slightly to $2.03.

The average investment required for a new store (see table) continued to increase in 1987, although the increase was moderate compared to previous years.

Average cost of an urban store was up only 2.1% in 1987, NACS reported, while rural stores showed a 4.2% increase. Gasoline equipment costs actually declined in 1987, compared to the year before.

The average convenience store pumped 47,000 gal. a month in 1987, up from 46,000 gal. a month in 1986. The percentage of C-stores selling gasoline remained at about 59%, according to NACS.

About 75% of all new C-stores added in 1987 had gasoline facilities, down slightly from the 78% rate of 1986, but 50% higher than the 1984 rate.

According to the study, tobacco (20.7%), beer (13.6%) and soft drinks (9.7%) rank one, two and three in inside sales. Hot beverages (66%), fountain drinks (60%) and ice (56%) provide the highest gross margin return. Average annual inventory turn for non-gasoline merchandise was 11.1 in 1987.

The NACS study is based on responses from 150 companies that operate 23,255 C-stores.

Comparison of Profits and Losses: 1986-1987

	11-50 Stores		51-100		101-500		Over 500		Average	
	1986	1987	1986	1987	1986	1987	1986	1987	1986	1987
Non-Gas Sales	39%	43%	56%	54%	50%	58%	64%	70%	60%	66%
Gas Sales	61	57	44	46	50	42	36	30	40	34
Total Sales	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Cost of Goods Sold	79.3	80.5	76.6	77.5	76.7	76.6	72.3	74.1	74.9	75.6
Gross Profit	20.7	19.5	22.4	22.5	23.3	23.4	27.7	25.9	25.1	24.4
Direct Store Operating Expense	14.4	14.3	17.6	16.8	16.8	17.9	19.9	19.0	18.3	18.2
Store Operating Profit	6.3	5.2	4.8	5.7	6.6	5.5	7.8	6.9	6.8	6.2
Corporate G&A	(3.4)	(3.2)	(3.5)	(3.7)	(4.8)	(4.2)	(4.5)	(4.4)	(4.3)	(4.2)
Other Income	.8	1.3	2.0	1.3	1.6	1.3	1.6	1.4	1.7	1.5
Other Expense	(.5)	(.4)	(.9)	(.8)	(1.4)	(.9)	(1.9)	(1.7)	(1.5)	(1.3)
Pretax Profit	3.3%	2.9%	2.4%	2.5%	2.0%	1.7%	3.0%	2.2%	2.6%	2.2%

Source: NACS "1988 State of the Convenience Store Industry" survey.

Average Investment per New Convenience Store

	1983		1984		1985		1986		1987	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Land	$147,900	$89,800	$170,200	$108,700	$212,800	$110,800	$275,400	$141,500	$266,000	$156,900
Building	125,300	101,700	149,800	106,900	180,000	118,900	158,300	141,500	181,300	152,800
Equipment										
Fast Food	14,200	7,700	14,100	9,100	19,000	16,200	19,900	18,500	22,100	17,700
Gas	59,900	50,000	55,100	49,400	65,700	73,700	88,000	89,500	84,900	85,300
Non-Gas	53,600	48,000	61,000	39,300	63,300	48,100	68,300	55,300	64,500	51,500
Total Equipment	127,700	105,700	130,200	97,800	148,000	138,000	176,400	163,300	171,500	154,500
Inventory	50,000	45,000	46,000	42,800	56,900	43,100	58,600	50,100	64,000	53,200
Total Investment	**$450,900**	**$342,200**	**$496,200**	**$356,200**	**$597,700**	**$410,800**	**$668,600**	**$496,400**	**$682,800**	**$517,400**

Source: NACS "1988 State of the Convenience Store Industry" survey.

(Divorcement . . . continued from page 29)

trict of Columbia have enacted laws. These are Connecticut, Delaware, Florida, Maryland, Nevada and Virginia. Florida's law was invalidated by the courts and taken off the books in 1985. The one that's the cynosure of all eyes, however, is the Maryland law, enacted in 1974, but not implemented until July 1, 1979. It forced seven oil companies with a total of 170 direct-ops to alter their operations in that state, leasing some outlets to dealers, closing others and selling some for non-petroleum purposes.

The legislative council cited two studies in its commentary, one made by Prof. John Umbeck and John Barron of Purdue University for the federal Department of Energy in 1984 and a more recent one (Jan. 1988) by Prof. Philip Sorensen of Florida State University. The Sorensen study found that the divorcement law had forced gasoline prices to rise roughly 3¢ gal. in Maryland. The council adds: "In both studies, it was found that the price rise usually was steepest at the full service pumps—meaning that senior citizens and handicapped motorists, who must depend on full service, were those hurt most."

Here are some excerpts from the council's study:

"Retail divorcement represents an attack on the dual distribution system in gasoline marketing, an attack that sets a dangerous precedent for many other businesses and industries [which] also use the dual distribution system for much the same reasons as do oil companies."

"In summary, no evidence is found that would lead to the conclusion that dual distribution is anti-competitive, harmful to independent dealers. On the contrary, dual distribution stimulates business and promotes competition which, in turn, reduces prices and improves service to the consumer. Splitting the dual market system would do just the opposite."

"Retail divorcement represents a radical

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(Continued from page 30)

form of government intervention in the marketplace. Essentially it constitutes a legislative restructuring of the highly competitive gasoline market, a move that would be justified only by evidence of predatory pricing practices on the part of refiners, practices designed to drive independent dealers out of business. No such evidence exists."

"Retail divorcement does not intensify competition, it stifles it. With divorcement, the removal of a class of competitors, America's 150-million motorists, would certainly have less freedom of choice. At present these motorists have the option to choose among hundreds of brands of gasoline at over 150,000 retail outlets, and can also choose between self service and full service stations, between low-price, convenience outlets and stations that offer more traditional automotive services. Competition is what makes this wide range of choices possible, choices that would be curtailed by retail divorcement."

One industry observer notes: On the assumption that this was an independent study by a state legislative council, it certainly was a landfall for refiners and suppliers. Since the report has been mailed to all 1,900 members of the council, all of whom are elected state representatives, this means that one-third of the legislators now have a report from their own council that argues mightily against divorcement and open supply as unneeded and unwarranted pieces of legislation.

Open Supply Proposals Are As Bad As Divorcement, Council Says

In sharper language than it used in its caustic criticism of divorcement legislation in the gasoline marketing industry, the American Legislative Exchange Council sums up its opposition with these words: "Like retail divorcement, open supply is an incorrect solution to a nonexistent problem."

The council's divorcement study also says: "The cost to consumers of open supply legislation is indefensible, given the antitrust protections already available to individual gasoline dealers and the intensely competitive nature of the retail gasoline market."

Most branded lessee dealers, the council says, sell branded gasoline under contracts that provide for the dealer to buy a certain percentage of his/her gasoline supply requirements from the supplier from whom the dealer leases his retail outlet. The study says:

"Open supply proposals would legislatively abrogate this contractural provision in order to permit the lessee dealer to acquire gasoline—including unbranded gasoline or gasoline of a different brand—from other suppliers and sell that gasoline through the leased outlet.

"Thus open supply would destroy the economic basis for branded service station dealership, operating contrary not only to the interests of motorists and refiners, but also to the interests of the branded dealers whom the open supply proposal is alleged to protect in the first place."

As a matter of fact, the study continues to note, "Open supply legislation could hurt the independent retailer by weakening the brand-name marketing system that gives thousands of small businessmen and businesswomen the opportunity to operate with far smaller capital investment than otherwise would be required."

Open supply, the report also states, could put refiners in the incredible position of not being able to legally insist that a dealer have adequate supplies of his brand at the station he owns but leases to an operator.

USTs To Be PMAA's Primary Theme

The impact on marketers of the Environmental Protection Agency's new underground storage tank regulations will be scrutinized at an opening day seminar during the upcoming annual meeting of the Petroleum Marketers Assn. of America. PMAA's 12th annual convention and trade show will be held in Atlanta, Oct. 8-12.

In addition to EPA's new rules, which are expected to be issued just prior to the convention, PMAA is tackling the issue of "foreign integration" into the U.S. retail market, a topic that has attracted much marketer interest since the announcement of the Texaco-Saudi Arabia marketing arrangement in the Southeast.

Another session which PMAA says will appeal to marketers is a separate "management conference" designed specifically for management personnel of marketer firms.

For information and registration details, contact PMAA, 1120 Vermont Ave., NW, Suite 1130, Washington or call (202) 331-1198.

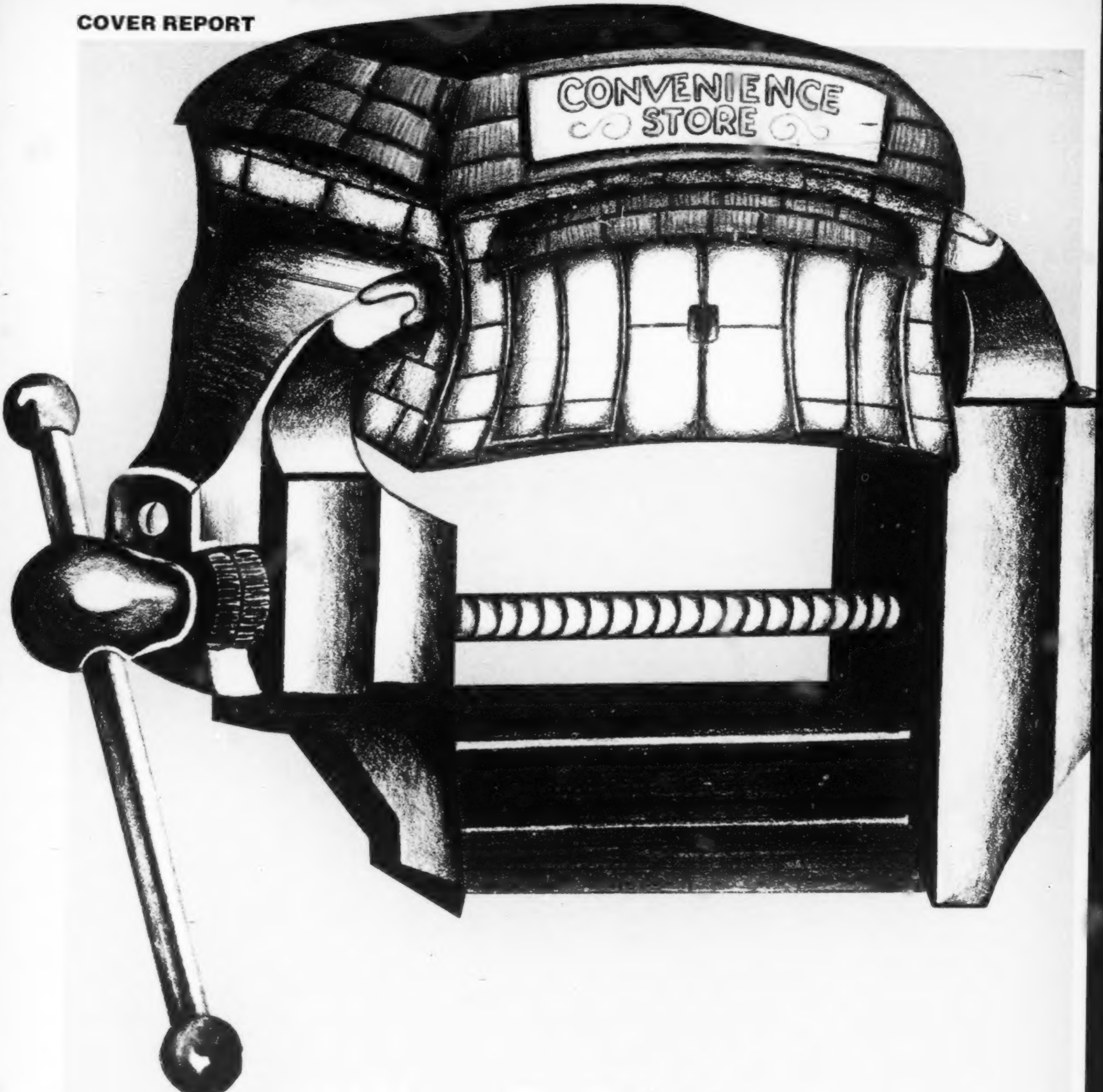
State Costs Would Be In The Billions

Motorists in at least eight states would have had to pay from $100 to $300-million more for their motor fuels had the Maryland divorcement law been enacted, according to the American Legislative Exchange Council.

This is the state-by-state breakdown, hypothesized by the council on the gasoline cost increases in Maryland after the divorcement law had been implemented. Consumption data for the year 1985 were supplied by Federal Highway Administration. States with current retail divorcement have been omitted. Had they been counted in, however, the council says the national total would have been well in excess of $3-billion.

State	Gasoline Consumption (thou/gal.)	Additional Costs Due To Divorcement
Alabama	1,881,466	$ 56,443,980
Alaska	267,709	8,031,270
Arizona	1,561,181	46,835,430
Arkansas	1,166,202	34,986,060
California	11,656,251	349,687,530
Colorado	1,558,918	47,667,540
Florida	5,462,027	163,860,810
Georgia	3,148,673	94,460,190
Hawaii	349,709	10,491,270
Idaho	463,502	13,905,060
Illinois	4,836,654	145,099,620
Indiana	2,576,132	77,283,960
Iowa	1,369,838	41,095,140
Kansas	1,234,185	37,025,550
Kentucky	1,736,511	52,095,330
Louisiana	2,132,374	63,971,220
Maine	548,083	16,442,490
Massachusetts	2,388,603	71,658,090
Michigan	4,086,109	122,583,270
Minnesota	2,136,370	64,091,100
Mississippi	1,231,066	36,931,980
Missouri	2,614,239	78,427,170
Montana	441,744	13,252,320
Nebraska	777,136	23,314,080
Nevada	509,110	15,273,300
New Hampshire	446,902	13,407,060
New Jersey	3,311,078	99,332,340
New Mexico	783,404	23,502,120
New York	5,941,935	178,258,050
North Carolina	3,092,963	92,788,890
North Dakota	385,715	11,571,450
Ohio	4,739,030	142,170,900
Oklahoma	1,890,867	56,726,010
Oregon	1,254,669	37,640,070
Pennsylvania	4,429,756	132,892,680
Rhode Island	379,026	11,370,780
South Carolina	1,630,720	48,921,600
South Dakota	387,453	11,623,590
Tennessee	2,534,948	76,048,440
Texas	8,899,228	266,976,840
Utah	755,798	22,673,940
Vermont	252,812	7,584,360
Washington	1,912,436	57,373,080
West Virginia	801,431	24,042,930
Wisconsin	2,022,990	60,689,700
Wyoming	332,978	9,989,340

COVER REPORT

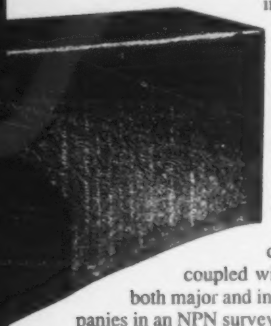

CONVENIENCE
STORE

Why C-Store Chains Are Getting Squeezed

By Mark Emond
Contributing Correspondent
and NPN Staff

The convenience store market is in a period of transition which will likely alter the position of key participants and change the methods, objectives and economics of C-store operations.

Independent gasoline marketers have long been leaders in convenience store development—but now major and large independent oil companies are substantially increasing their involvement, putting traditional C-store chains in a squeeze.



Industry research portrays a market environment ripe for such a development. And opinions some industry observers coupled with comments from both major and independent oil companies in an NPN survey of C-store activity (see chart on page 44) suggest the trend is underway.

Although precise figures on projected growth were not always available, most oil company spokesmen contacted in NPN's study indicated they were planning to increase their C-store activity. In fact, several which not long ago had virtually halted convenience store building, report they will move back into the market. And at least one which had previously ignored C-stores altogether, Amerada Hess, has reversed field. The tough east coast independent, a pioneer in multipump, gasoline-only stations, says it now finds C-stores worthy of development and plans to add an unspecified number each year.

Nonetheless, some marketers are wary. Caution is the watchword, they say, noting that although there may be opportunity in C-stores, some areas are saturated and success depends greatly on location. Moreover, they add, the costs of starting a C-store are often so high that a marketer could get a better return on investment, and at less risk, by using that capital in some other venture.

More on this later. Suffice to say, some respected veteran marketers are less than enthralled about of the C-store business in many areas.

Oil company edge

For some time, opinion has been growing that the C-store market in some parts of the country is at or rapidly reaching the saturation point. Most marketers would at least agree that the heyday of C-stores is, for the most part, past.

Why then are oil companies apparently increasing their involvement? The answer can be summed up in three words: Location, location, location. It is almost invariably mentioned as the critical factor for survival in the C-store market—and this is exactly what gives oil companies an edge. These established companies—not only the majors, but large independents and jobbers—have a superabundance of prime locations. Many were purchased cheaply in past years and represent a huge reservoir of excellent sites, giving their owners distinct advantage over any C-store company trying to expand. In a flat out building race, there's little chance C-store chains can keep up with oil companies.

This is already making itself apparent. For instance, a recent study by Bankers Trust, one of the largest merchant banks in the country and a specialist in mergers and acquisitions, supports this premise. The study, "Opportunities in the Convenience Store Industry," states that "Virtually all of the growth since 1986 was accounted for by major oil companies who have made a strategic decision to enter the convenience store industry."

It had to come to this. The stable of oil company prime locations exists because of the nature of the service station business. All it took was for oil companies to become C-store believers on a broad scale. That time has come.

In a flat out building race, there's little chance C-store chains can keep up with oil companies.

With their own money bags and market-share ambitions, the oil companies are forging ahead, letting the traditional C-store chains do the looking out. Most companies interviewed are expanding at their recent rates or faster.

John Roscoe, one of the original traditional C-store marketers and a student and philosopher of the business, clearly recognizes the formidable threat of oil companies in the C-store business. "The oil company convenience effort is still in the early stages of development, but even the development to date is causing trouble for the old line chain convenience operators."

With his California chain of 107 "Food & Liquor" discount stores, which he considers an evolutionary step beyond C-stores, Roscoe concludes, "Convenience stores are no longer a threat to the gasoline marketing system; the gasoline marketing system is a threat to the convenience store."

With the combined advantages of prime locations and their dominant position in gasoline marketing, the oil companies are expanding rapidly in C-stores. As petroleum marketers, they don't seem to worry about traditional C-stores. They are looking at different economics and objectives.

C-store expansion for oil companies essentially means combing through their abundant portfolios of sites and picking the right ones. Expansion for C-store chains essentially means scouting for good locations and trying to acquire them. The selection may not be all that good, and the prices are often very high and ever rising.

The Bankers Trust study also reflects this: "We believe many of the regional convenience store markets have now matured and will become increasingly saturated as the oil companies continue to muscle their way into these markets."

A straightforward interpretation of that comment is that oil companies aren't going to go down the tube because of C-store chains, but many C-store operators could well go belly-up because of oil companies.

What's more, a lot of traditional C-store chains apparently know they're in a pinch. They are buying, selling, reorganizing, and merging on a massive scale, trying to improve the quality of their locations. These actions may well be their best bet. The Bankers Trust study, for instance, suggests that the C-store chains embark on exactly this kind of consolidation to gain economies of scale and concentrate in a few key markets. The study, in fact, recommends the chains go even further by developing a market-by-market strategy and exploiting regional opportunities.

Roscoe notes the same activity. "To date the convenience store companies have closed thousands of locations and relocated them to what they call 'prime sites,'" he says. "They don't seem to realize their new prime sites are still inferior to those already owned by the oil companies. They lost the battle a long time ago."

Why can't C-store companies fight back

The major and large independent oil companies are really rolling into the C-store market. The big edge they have over traditional C-store chains is their substantial inventory of excellent locations, initially purchased for gasoline stations, but ideally suited for C-stores. To expand in the C-store market all they need to do is select from the best of these sites. The chains must scout out good spots and the property they purchase will be highly expensive.

effectively? Roscoe says the reasons are: "They don't have crude oil to turn into dollars, they don't have the world's best convenience locations, and even the biggest convenience store companies are financial pygmies compared to the oil companies."

Massaging the numbers

A little analysis and extrapolation of recent industry figures also gives an indication of what is happening, why it's happening and how the scenario may unfold.

In its "1988 State of the Convenience Store Industry" report, for instance, the National Assn. of Convenience Stores indicates that average C-store pre-tax profits dropped for the third straight year in 1987 while total investment for a C-store continued to increase.

The report states that average C-store profits during the most recent peak year of 1984 were $23,100 annually. From 1985 to 1987, the average fell to $22,800, $21,900, and $19,200, respectively. Meanwhile, costs for starting a C-store just between 1986 and 1987 increased from $668,600-$682,800 in urban areas, and from $496,400-$517,400 in rural areas.

In short, you're paying more and getting less return for your money if you open a new C-store. What this means is that many older C-stores may survive, but new ones may not. The NACS report, prepared by Arthur Andersen & Co., specialists in the field of retail food-industry surveys, and Gerke Economics Inc., analysts, says: "It is clearly evident that annual sales and profits for new stores will need to exceed the averages for existing stores by a sizeable amount to insure the recovery of the substantial investment required for a new store.

"With the reduction in profitability, the industry must not only show substantial increases in new store sales, but must also show improved profits in order for new stores to show an adequate return on investment."

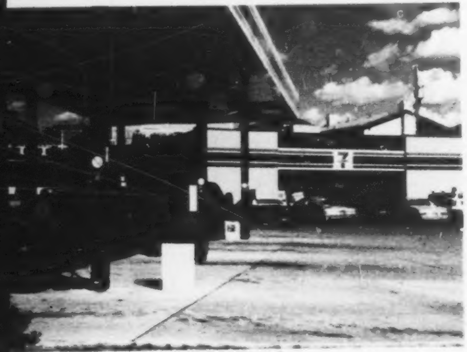
Even more revealing are figures which distinguish between traditional C-store chains and petroleum marketer chains, an important distinction because it shows how oil companies and C-store chains can and are going about the business differently.

Petroleum C-stores are, for example, expanding much faster than traditional C-store chain stores, according to *Convenience Store News*. The magazine reports that the total C-store population increased by 4,000 (from 76,000 in 1986 to 80,000 by the end of 1987), but of this, 3,000 were opened by oil companies.

Convenience Store News defines traditional C-stores as those run by an independent owner or company organized specifically for operating a C-store business, noting that although many also sell gasoline, their roots are in selling merchandise, not petroleum. Petroleum marketers are defined as those who specialize in the distribution and/or sale of gasoline—companies which "were organized for the purpose of establishing retail outlets for gas."

Using these definitions, the publication says about 75% of petroleum C-store companies plan to construct new stores during 1988, while only 53% of traditional companies do, and comments that: "It is apparent that the growth of new outlets will continue to come from the smaller but more aggressive petroleum marketer segment."

The NPN study also reflects a slowdown in growth of traditional C-store company outlets. Southland Corp., for instance, the nations leading C-store chain, says the number of 7-Elevens' being built is leveling off.



C-store chains are buying, selling and consolidating, but the bottom line for most of them is that their rate of growth is slowing. Southland Corp., for instance, the nations leading C-store chain, says the number of 7-Elevens' being built is leveling off and projects that after 1990 no new stores will be built. Then it plans to open 105 C-stores and close 105 each year, strengthening its position in specific markets. Houston-based National Convenience Stores, added outlets in recent years, but at a slower rate. In 1986, they added 74 stores, but in 1987, they added only 31 and during their fiscal year 1988-1989, they plan to add only 23.

Faced with lower margins, some marketers have gone to 24-hour C-store operations and put more emphasis on fast food, delis and specialty food items such as ice cream.

In fact, after 1990, Southland projects that no new stores will be built. Rather, it plans to open 105 C-stores and close 105 each year, strengthening its market position in designated areas.

Houston-based National Convenience Stores, has been increasing their number of stores in the past few years, but at a slower rate. In 1986, they added 74 stores, but in 1987, they added only 31. And the company says that during their fiscal year 1988-1989, they plan to add only 23.

(This isn't always the case, however. Convenient Food Mart, Rosemont, Ill., is an example. Its number of C-stores has risen from 1,316 in 1986, to 1,345 in 1987 to 1,450 this year. And they plan to open 140 in 1989.)

Following are some other statistics in the *Convenience Store News'* annual convenience store industry report worth noting regarding traditional C-store company and oil company/petroleum marketer activity in the market.

- Merchandise sales at C-stores in 1987 amounted to $40.1-billion; gasoline sales, $32.3-billion, or 45% of the total C-store sales. (The NACS study reports smaller 1987 totals generally: 67,500 C-stores grossing $59.6-billion, of which $39.1-billion was from merchandise and $20.5-billion from gasoline, or 34%. There is no way to reconcile these differences.)
- In 1987, 52,000 C-stores (65%) were operated by traditionals and 28,000 (35%) by petroleum marketers. Only 62% of the traditionals offered gasoline, while 92% of the petroleum marketers did. Overall, 73% offered gasoline.
- Petroleum marketer outlets pump more gasoline, on average, than those of traditional C-store companies: 644,400 gal. a year (53,700 gal. a month) for petroleum C-stores and 485,400 gal. a year (40,450 gal. a month) for traditional companies. For the entire year 1987, traditional C-stores took in $473,000 on gasoline (97.4¢ gal. average), while petroleum C-stores obtained $662,000 on gasoline (99.6¢ gal. average).

More petroleum C-stores sold major gasoline brands, 77%, than traditional C-stores, 64%. (The top five major brands at traditional stores were Mobil, Amoco, Texaco, Phillips, and Shell, in that order. The top five at petroleum C-stores were Phillips, Shell, Amoco, Texaco, and Citgo, in that order.)

- Traditional C-stores sell more merchandise than petroleum marketers: $550,000 vs. $410,000 annually, on average. The reason given is that traditional locations have larger stores and a wider assortment of items for sale. The magazine says fully 82% of traditionals fall in the range of 1,800 to 3,000-

Small-Town C-Stores: A Niche Or Not A Niche?

Small towns, sometimes called rural, are believed to be a niche in which C-stores can expand and operate more profitably without the competitive pressures and costs of urban locations. This appears to be at least partially true, but there are discordant voices.

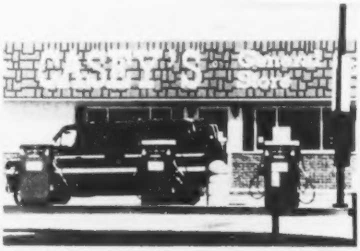
John Roscoe, in his 17th annual survey of the C-store business, says small towns have an advantage. "Gasoline margins are generally a bit better," he explains. "Inventory shortages are often less because people who have their roots in an area generally behave better. More important, the costs of operation are generally less."

Roscoe says Casey's General Stores, Des Moines, Iowa, is a case in point. "The management of Casey's seems to understand that convenience stores have to have costs that match their function. They are young enough to stay in the business awhile, and they're getting rich."

Roscoe believes Casey's is successful because of its small-town philosophy:

"They supply some of the general store and some of the restaurant functions in those places. They may be the Wal-Mart of the convenience-store business. They have low costs. They state they can buy the land, building, equipment and inventory for about $250,000. These are 10 to 15 years ago costs. They own most of the real estate.

"They appear to have retailing discipline. As opposed to other convenience retailers, there are some things they won't do and don't sell. They have major protection from competition. Location is not as important in a small town. The major oil companies aren't likely to open competitive units in those towns."



Casey's General Stores has carved a niche in Des Moines, Iowa, by knowing the rural community and catering to it where most traditional major oil companies aren't likely to open competitive units in those towns.

Many of Roscoe's comments could apply to small-town C-stores everywhere.

But Casey's has been having trouble recently maintaining gasoline volume and has resorted to giving away some of the higher margins small-town C-stores are known for. Experiencing a volume decline, Casey's recently cut gasoline prices. The company felt most of its customers lived in larger cities where prices were lower. The price-cutting bounced gasoline volume back, and even increased inside sales, but the margins of old were lost, perhaps irretrievably.

There's still another side to small-town C-store marketing: competition can hit you harder. Most of Tom Love's 100 C-stores are located in small towns, mainly in Oklahoma, Kansas, and Texas, and he reports some are starting to become saturated. He says when small towns are saturated it's worse on competition because "you can lose 20% overnight."

Small towns may protect a C-store operator from the worst competitive dangers, but there appear to be other problems that require solutions of their own.

sq.ft. Only 33% of petroleum C-stores are that size. Some 50% fall in the range of 800 to 1,800-sq.ft.

NPN average calculations, on the other hand, arrive at an approximate average of 2,320-sq.ft. for traditional C-stores, 1,550-sq.ft. for petroleum C-stores.

Because petroleum C-stores are generally smaller, they stock fewer items, 2,025 on average, while traditional C-stores stock an average of 3,350 items. But petroleum stores outstrip traditional stores by far in the total value of inventory because they store much more gasoline. The total value of inventory at petroleum stores is $82,500, but only $49,300 at traditional stores.

Marketer concerns

It is mainly the figures on costs of starting a C-store in relation to the profit flow of those stores which has some marketers viewing the C-store business with skepticism. The numbers seem to be substantiating what they actually see occurring in some of their marketing areas.

NPN'S CONVENIENCE

COMPANY	HQ LOCATION	C-STORE NAME
AMERICAN PETROFINA	Dallas	FinaServe
AMOCO OIL	Chicago	Food Shops
ARCO	Los Angeles	am/pm mini market
ATLANTIC R & M	Southeastern, PA	A-Plus
BERWICK BAY	Morgan City, LA	Friends
BP AMERICA	Cleveland	Sohio Food Mart
CHEVRON	San Francisco	Food Mart
CIRCLE K	Phoenix, AZ	Circle K
CITGO	Tulsa, OK	Quik Mart
COASTAL	Houston	Coastal Mart
CONOCO (KAYO)	Houston	Jet
CONVENIENT FOOD MART	Rosemont, IL	Convenient Food Mart
CROWN CENTRAL	Baltimore	Zippy Mart Fast Fare
CUMBERLAND FARMS	Nashville, TN	Cumberland Farms
DIAMOND SHAMROCK	San Antonio	Diamond Shamrock
EMRO MARKETING	Springfield, OH	Speedway
EXXON OIL	Houston	Exxon Shops
GETTY PETROLEUM	Plainview, NY	Getty Marts
MAPCO	Tulsa, OK	Delta Express
MOBIL OIL	New York	Mobil Mart
MUSKET CORP.	Oklahoma City	Love's Country Stores
NATIONAL C-STORE	Houston	Stop N Go
PHILLIPS	Bartlesville, OK	Food Plaza
PILOT OIL	Knoxville, TN	Pilot
QUIKTRIP	Tulsa, OK	QuikTrip
SHELL OIL	Houston	Food Marts
SOUTHLAND	Dallas	7-Eleven
SUN OIL	Philadelphia	Stop-N-Go Sunoco Food Mart
TEXACO	Houston	Food Marts
TOTAL PETROLEUM	Denver	Total Vickers Apco
TRUMAN ARNOLD	Texarkana, TX	Road Runner
UNOCAL	Los Angeles	Mini Marts

n/a—Precise figures not available and/or not disclosed by company. Although some companies stated they intend to add stores later this year and in 1989, they were uncertain exactly how many or considered this information proprietary.
n/c—No change

Jack Malone, a veteran Memphis marketer, is among them. He says marketers should be extremely cautious about entering the C-store business today, adding that he doubts many of the stores now being built by the oil companies and C-store chains will pay off. The biggest hang up, says Malone, is the large investment required to start a C-store in what could be already overbuilt markets. (See "Looking Things Over," page 26).

A similar opinion is held by Truman Arnold, Truman Arnold Companies. Noting the increased cost of opening one of his Road Runner outlets, he says he can still get a good return but that they are being run as 24-hour operations and selling fast food.

The company's senior vice president,

Cigarettes
3
$2.79
CROWN

Because they specialize in merchandising and normally have more floor space, C-stores operated by chains such as Circle K sell on average about $550,000 annually compared to about $410,000 annually for petroleum marketers. As could be expected, however, petroleum marketer outlets sell an average of 13,000 gal. of gasoline more per month than a C-store.

STORE SUMMARY

1986 TOTAL	1987* TOTAL	1988 CURRENT	1988 PROJECTED	ADDITIONS PROJECTED IN 1989	SIZE SQ. FT. MINI	SIZE SQ. FT. FULL
120	115	150	200	150-200	800	1,500
n/a	n/a	1,000	1,100	n/a		1,200
n/a	n/a	782	n/a	n/a		2,500
n/a	n/a	270	n/a	n/a		1,600/2,000
n/c	43	42	45	n/a	400	2,400
n/a	n/a	620	n/a	n/a	1,000	1,500
n/a	n/a	2,672	n/a	n/a	350	1,000
n/a	3,507	4,097	4,632	n/a		2,600
n/c	14	15	n/c	n/c	900	1800
n/a	n/a	900	950	n/a		2,000
n/a	469	486	n/c	50		1,200/1,600
1,316	1,345	1,450	1,500	140		3,000
n/c	n/c	470	480	n/a	500	2,000
n/a	n/a	1,200	n/a	n/a		2,000/3,000
494	510	529	549	40		1,200
618	621	675	702	75		3,375
n/a	n/a	375	n/a	n/a		1,100
n/a	n/a	300	310	40	600/1,000	2,000
n/c	n/c	300	n/a	36		2,400/2,700
n/a	n/a	800	n/a	n/a	600	
n/c	n/c	100	n/c	n/c		1,800/4,000
1,095	1,169	1,200	n/c	23		2,021/3,090
68	113	136	156	44	800	
n/c	n/c	115	125	10		2,200/2,500
217	230	252	n/c	19		3,200
n/a	n/a	1,100	n/a	n/a		1,000/2,600
8,181	8,250	7,447	n/a	n/c		2,400
n/a	n/a	485	n/a	n/a	300	2,000/2,400
n/c	n/c	900	n/c	n/c		1,000
423	430	470	n/c	15	800	1,500
n/a	n/a	100	112	18		3,500
n/a	n/a	2,500	n/a	n/a	500/1,000	2,200

Tony Arnold, adds another perspective. "Sometimes there is a better alternative for real estate in a specific market." He says the firm "eliminates stores not doing well. Some sites don't meet the criteria to make a worthwhile return."

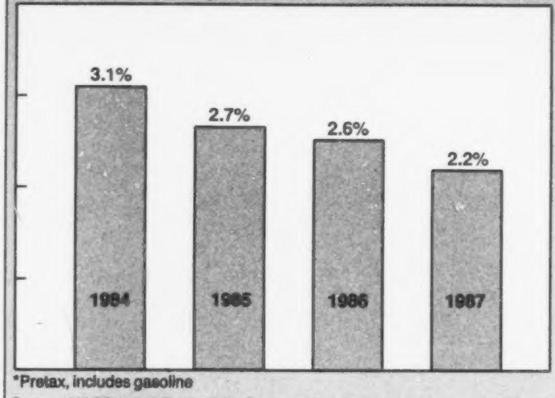
Tom Love, owner of Musket Corp., which operates Love's Country Stores, says the "Market is saturated and overbuilding is the general trend." He stresses that marketers entering the C-store business be extremely selective in the areas they choose.

A spokesman for Emro Marketing (Marathon) gives the same appraisal, stating that there still are some opportunities but "success depends on location."

On the other hand, marketers point out that the market—as a whole—is not saturated and that there are locales where C-stores can still do relatively well. The overbuilt areas are mainly urban; many rural areas are not yet saturated, although they also may soon reach that point.

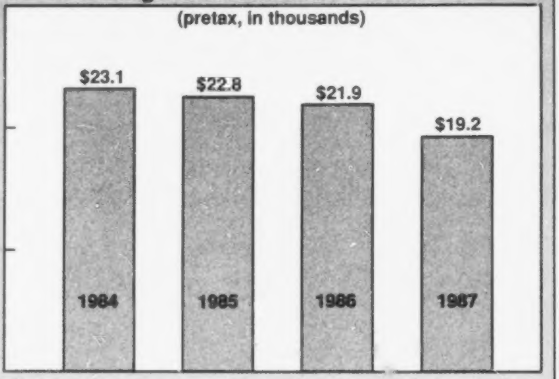
And, despite the increasing competitiveness of the C-store business, some operators are doing well or at least holding their own. It's tougher, they say, but it can be done.

C-Store Profit, Percent Of Sales—1984-87*



Average Profit Per C-Store—1984-87

(pretax, in thousands)



*Pretax, includes gasoline

Source: NACS "1988 State of the Convenience Store Industry" report. Charts by NPN.

One of the key factors is quality. This, they say, will dictate which C-stores will be around in the next five to 10 years.

"I think quality will play an even greater role than it has in the past. The products, people and services provided will determine what stores will exist," says James Alligood, MAPCO vice president of retail marketing. MAPCO operates Delta Express stores.

Tom Love says essentially the same thing. The best way to survive today, he contends, is by "standing out . . . from the thundering herd." You have to be better than your competitors. "We do delis better than anyone else. We are constantly modifying our grills and adding other new features. You have to be dynamic and innovative."

CFM CEO James Risberg says the market still has room to grow for those C-stores which "constantly offer new and improved ways of servicing the community."

The bottom line is that the C-store market is no longer a turkey shoot. The price cutting and lower margins which began surfacing just a few years ago are probably here to stay as the majors and large independents increase their presence in the market.

Little Stores With Big Bite

Many petroleum marketer C-stores are mini-marts or kiosks with limited space for merchandise. Many are converted salesrooms with even fewer items. While this kind of store might seem like no more than a nuisance, it is considered a serious drain by full-line C-stores, both traditional and petroleum.

The reason is that the little stores skim off precious sales at a time when many C-stores are having a difficult time maintaining income and profits. Every time a potential customer picks something up at a little petroleum mart, he is probably a lost customer for a larger C-store.

This is why the C-store industry views with concern oil company programs like the one Texaco recently announced, to help stations convert salesrooms to C-stores [*NPN*—April '88, p25].

In a national program aimed at both jobbers and dealers, Texaco is trying to convert salesrooms to mini markets as a means of increasing gasoline sales and improving station profits.

For its 2,400 direct-delivered stations and 13,600 indirect (jobber) stations, Texaco is urging full service marketers at approved locations to invest $16,000-$17,000, plus inventory, to convert salesrooms to convenience stores. Texaco would provide four different conversion designs, construction plans, suggested inventories, and so forth, plus leasing of dispensing machines.

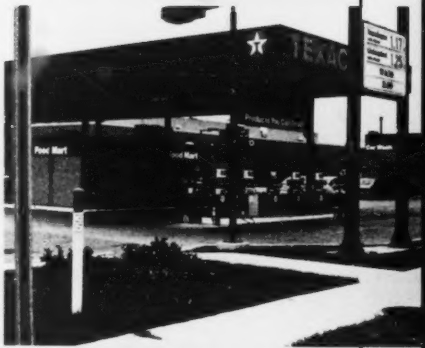
Texaco believes the little stores would generate from $3,000 a month to as much as $10,000 a month in revenues. Even in the $3,000-$4,000 range, with a 30% margin on the products sold, the retailer would be expected to earn a return on investment of 30-35% or more.

Texaco's expressed intention is to stop the migration of customers to "the big gas bars" and C-stores.

Nobody knows how many Texaco salesrooms will be converted to mini markets, but the potential is gigantic.

John Roscoe, The Customer Co., Concord, Calif., in his 1988 "17th Annual Dollars Per Day Survey of the Convenience Food Store Industry," writes, "Every gasoline station that sells a little bit of convenience takes away from convenience-store food product sales. With less sales, you develop less margin and pretty soon costs aren't being covered. When that happens, you must begin to close locations and relocate them on 'prime sites.'"

Commenting on the massive closure of gasoline stations since the early 1970s, he says, "Convenience store gasoline sales helped create the problem. It was fun when it was happening to gasoline stations. Convenience stores took away a little gasoline business and that made many gasoline stations uneconomic. Now gasoline stations are taking away a little convenience food store business and that makes the convenience food store uneconomic."



Many of the oil companies, like Texaco, are converting their salesrooms into mini markets or kiosks as a means of luring customers away from the traditional C-store. More customers also mean increased gasoline sales and improved station profits.

In recent years Roscoe has culled out 53 of his stores, which used to be called "Shortstop," because they didn't fit his new image. His Food & Liquor "discount" stores typically have 4,000-5,000-sq.ft. of space, with some up to 6,000-sq.ft., and do 200,000-300,000 gal. a month.

Stores like those envisioned by Texaco, together with many existing mini-marts and kiosks of other oil companies, may not be especially profitable, but they are a deadly threat to traditional C-stores.

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NATIONAL PETROLEUM NEWS
Established in 1909

VOL. 80 **NO. 11**

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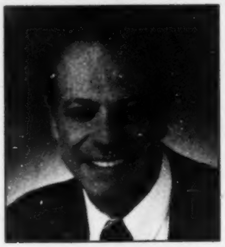

Editor's Viewpoint

The oil shocks of the 70s so traumatized us that most people think of an "energy crisis" only in terms of shortages and rocketing crude prices. But, as one industry authority points out, there is another danger which may be even greater, if for no other reason than that it's more likely: an OPEC collapse that undermines the world oil price system, damages the economy in general and creates chaos in the oil industry from refiners down to marketers.

New York economist John H. Lichtblau told the House Banking and Finance Committee not long ago that although a cutoff of Persian Gulf exports is possible between now and 1991, the risk of an OPEC collapse in this period "is far greater than that of a major supply disruption" and cautioned that "we should treat the possibility of a price collapse as seriously as that of a foreign oil disruption, probably more so."

Lichtblau, who has been president of Petroleum Industry Research Foundation, Inc., for almost 30 years, noted that a free fall in crude prices could take us to $10 bbl. or less for several years, a drop that could cause a financial crisis in OPEC countries as well as major non-OPEC exporters.

More important is that "the relatively high cost U.S. and Canadian oil and gas producing industry could not survive very long in a $10 price environment," and "a severe recession in the U.S. oil and gas producing states might become a national problem." To get a feel for what this could mean, look no further than the "oil patch" which hasn't recovered from the last dive in crude prices.

Why does Lichtblau consider this more likely than a supply disruption? For one thing, none of the factors that triggered the disruptions of 1973 and 1978 apply today. "Surplus capacity," he notes, "is super-abundant, and while the bulk of it is located in the Persian Gulf, some 3-3.5-million b/d (13-15% of total world exports in 1987) are located outside the Persian Gulf." Also, the U.S. Strategic Petroleum Reserve can be drawn down at a rate of 3.5-million b/d for at least four months and at declining rates thereafter and European countries hold about 400-million bbl. in public stocks for emergency purposes. Current commercial inventories are significantly higher than a year ago. Finally, he points out, "the myth of OPEC's irreversible price structure has been shattered for a long time to come by the events of 1986 which have been reinforced by the current price situation."

In short, we may be relatively secure from a unified OPEC, sudden shortages and oil price increases, which cause most concern, but we should be equally alert and prepared for the exact opposite possibility. *—Frank M. Victoria*

National Petroleum News (NPN) (ISSN 0149-5267) is published monthly by Hunter Publishing Co., Inc., 950 Lee Street, Des Plaines, Illinois 60016. (312) 296-0770.

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.

Basic **subscription rates** for one year to individuals in the petroleum marketing industry are: U.S. $54; Canada $63 (U.S. $); Foreign surface mail $69 (U.S. $); Foreign airmail $104 (U.S. $). Non-industry personnel rates for one year are: U.S. $69; Canada $78 (U.S. $); Foreign surface mail $84 (U.S. $); Foreign airmail $128 (U.S. $); **Single copy price:** U.S. & Canada $8.00 (includes first class postage). Foreign $10.00 (includes airmail postage). **Mid-June Factbook:** U.S. $50; Canada $60; Foreign $70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S patent office. **Change of address:** Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to : Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (312) 296-0770, 9 a.m. to 4 p.m.

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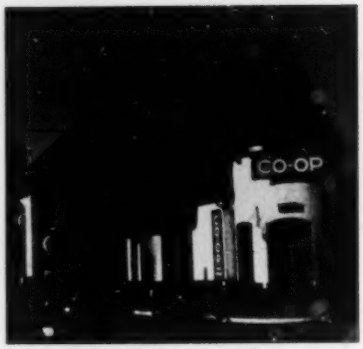


Farmland Industries is branching out from its traditional farm customer base with a bold strategy to capture more rural nonfarm retail business. Keys are a major re-imaging program, advance pump island electronics and a customized retail modular system for co-op marketers. **Page 46**

Survival in the energy business means diversity, says Barney U. Brown Jr. of highly diversified Red Rock Petroleum Co., a company involved in banking, real estate and ranching, as well as gasoline and C-stores. **Page 58**

Over the years, Cumberland Farms has prized its identity as one of the biggies in the C-store market. But now that it has also become the country's largest independent gasoline retailer, the Census Bureau may reclassify Cumberland as a service station chain that also sells groceries. **Page 66**

• CATCHING UP

Concern that refining and production couldn't pay for itself downstream was a major factor in selling virtually all of Atlantic Refining & Marketing Corp. to Sun Co., says John Deuss, Atlantic chairman and CEO. Speaking at the Petroleum Marketers Assn. of America's Sixth National Oil Heat Marketing and Promotional Conference recently, Deuss said "there isn't enough margin to live with" downstream. He sees crude prices continuing to fall ($10 to $12 a bbl. by year end) and marketing competition increasing—especially from foreign investors. OPEC "hasn't been very successful" with production quotas and prospects of easing Saudi-Iranian relations are "poor," Deuss said. He also expects non-OPEC sources to increase their share of world oil production while OPEC's share, now 18%, will increase 2-4%. The resulting increase in competition among producers will make downstream operations more attractive, Deuss predicted. He cited the agreement between Texaco and Saudi Arabia as an example and said he expects an increase in foreign investment in U.S. marketing.

Southland Corp. continues to restructure. The company recently sold its Snack Food Division to Vesper Corp., a privately held, Massachusetts company, for an undisclosed amount. The Snack Food Division includes three companies: Keystone Pretzels Bakery, in Lititz, Penn., EL GE Potato Chip Co., York, Penn., and Pate Foods, South Beloit, Ill. Meanwhile, Kwik Shops Inc., a subsidiary of Dillon Co. Inc., signed an agreement to buy 46 7-Elevens in several Midwest states for an unknown price. The sale, which does not include 182 7-Elevens in Illinois not scheduled for divestiture, will give Kwik Shops a total of 209 C-stores. With this transaction, Southland will have sold 876 of the 1,000 stores earmarked as part of its leverage buyout. Southland also completed the purchase of 43 National Convenience Stores in Las Vegas for $23.3-million. The stores are to be converted to 7-Elevens this month.

The octane race continues in the Midwest. Most recently, Shell Oil Co. joined the bandwagon, unveiling 93-octane SU 2000 in Chicago, Detroit, Indianapolis and St. Louis. At the same time, Shell dropped leaded regular, replacing it with 89-octane unleaded SR 2000 in many metro markets east of the Rockies in September.

Amoco jobber Bob Herr of Herr Oil in Galesburg, Ill., filed a lawsuit against Amoco Oil to prevent the oil company from terminating him for allegedly commingling. Jobbers in Wisconsin and Indiana are also considering suits against the major for the same reason. The Herr suit claims that because Amoco prohibited the blending of its gasoline with alcohol, the jobber went to another supplier for ethanol. Amoco found the other ethanol-blended gasoline in an audit and served Herr a termination notice on June 16, effective Sept. 8. Herr's suit claims that this was less than the 90 days notice required under the Petroleum Marketing Practices Act and didn't allot enough time to remedy the violation. Amoco is now auditing several stations in its St. Louis district, which includes some Illinois jobbers, and will monitor them for at least the remainder of the year.

A yearlong Government Accounting Office study reveals the United States is less vulnerable to an oil shortage today than it was in the 1970s. However, the GAO study says that national security could be adversely effected by an increasing dependence on foreign oil. The study recommends that the government prepare for a possible oil deficit by mandating greater energy efficiency in transportation to get more miles per gallon. However, the Dept. of Transportation recognizes that implementing tougher auto-efficiency standards will have it butting heads with the auto industry, some consumer groups and lawmakers which are not likely to concede to that kind of recommendation during an election year.

Federated Insurance, one of the largest pollution liability carriers, has upped its prices once again. A Federated spokesman says the company hasn't been making money because premiums have been less than the firm has been paying out. One marketer with several stations in Illinois says his premiums went from $9,000 to $39,000. The main reason for the increase stems from the recent change in tank classifications and the reevaluation of each state, says Federated. Thus, marketers operating in high risk areas, such as California and New Mexico, and who have older tanks, will pay about $5,000 per site. Those in low-risk states, such as Alabama, Arizona, Delaware, Indiana, Mississippi, Kentucky, Kansas and Tennessee will pay about $2,000-$2,500. One bright note: Federated anticipates state cleanup funds should help to keep premiums at a reasonable rate.

In a letter to the Federal Trade Commission, the New England Fuel Institute demanded an investigation of what it termed "unscrupulous and deceptive" promotional materials by Bay State Gas Co. NEFI says a brochure "misrepresents the comparative costs of oil and gas heating and distorts the efficiency of the gas-heating furnaces available to the public." It says the utility's claim that gas heat is cheaper than oil heat in Massachusetts is and has been "untrue since early 1986," and the claim that gas furnace efficiencies are 85-96% is a "blatant misrepresentation . . . The most recent data compiled by FTC lists 51.4- 86.2% as the range of existing energy efficiencies for gas heat."

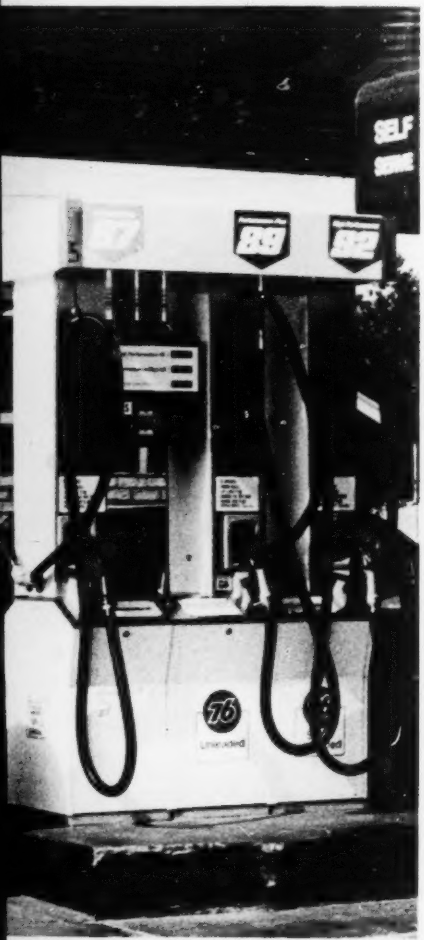
Six new directors were elected to Petroleum Equipment Institute's (PEI) even-numbered districts and will be installed at its Convex 88 Show in San Francisco this month. They are: Lawrence L. Hafer, president, Hafer Petroleum Equipment Ltd., Reading, Pa.; Maurice J. Hubbard, president, J & M Pump Service, Inc., Fort Myers, Fla.; Carl E. Dean, president, Buckeye Oil Equipment Co., Dayton, Ohio; Jerry Schmitz, vice president, Petroleum Marketers Equipment Co. Inc., Oklahoma City; Thomas McGee, vice president of PMP Corp., Avon, Conn.; Brian Donovan, manager, Steel Tank Assn., Northbrook, Ill. The newly elected directors will join the seven directors elected last year. The president and vice president will be elected at Convex 88.

Unocal First In West With Unleaded Trio

Ever since unleaded gasoline was introduced in the early 1970s to protect catalytic converters from being ruined by lead, the oil industry has become a marketer of at least three grades of gasoline—except Unocal. The reigning head of Unocal for many years, Fred L. Hartley, decided to stay with two grades while the rest of the industry went to three.

For many years, Unocal marketed a leaded premium and unleaded regular, the latter being of higher octane number than the leaded regulars of other companies.

It is therefore a case of some distinction that Unocal has become the first company in the West to market three unleaded grades. Interestingly, Unocal's hardware is still two-grade, utilizing a blending valve to mix the middle unleaded grade.



Unocal markets three unleaded grades in West.

The conversion was completed throughout the West in August, after having been introduced in 1987 in Washington and Oregon.

In the Northwest the octane configuration is 87-89-91, and in the rest of the West 87-89-92.

The middle-unleaded grade has made great inroads in many other parts of the country, and it is likely to give Unocal a jump on everybody else in the West.

Western Motor Fuel Tax Among Highest In U.S.

As gasoline and diesel-fuel taxes go, many of the Western states are right up near the top of the list, with Montana leading the pack at 20¢ gal. (second in the nation to Wisconsin at 20.9¢). At 8¢ gal., Alaska and Wyoming are among the four lowest in the country, outdone only by Georgia with 7.5¢.

The federal gasoline tax is an additional 9¢ gal., the federal diesel tax is an extra 15¢ gal.

California with 9¢ gal., fifth lowest in the country, seems likely to be adopting a hefty increase soon. In late summer, California legislators appeared to be getting behind an 8¢ gal. jump during the next five years: 4¢ in 1989 and 1¢ annually from 1990 through 1993. This would bring the total to 17¢, which would tie it for 13th highest in the nation based on current tax rates.

Here's a rundown of gasoline and diesel fuel taxes in the West as of mid-1988, according to the Highway Users Federation (¢/gal.):

	Gasoline	Diesel
Alaska	8¢	8¢
Arizona	16	16
California	9	9
Colorado	18	20.5
Hawaii	11	11
Idaho	18	18
Montana	20	20
Nevada	16	17
Oregon	14	14
Utah	19	19
Washington	18	18
Wyoming	8	8

Calls for higher motor fuel taxes are influenced primarily by the strain on highway systems. This is brought about by increased travel accompanied by repeated cutbacks and uncertainty in the federal-aid highway program.

State and local officials are being pressed by the need for improvements in aging roads and bridges, worsening traffic congestion, and public demand for better highway services.

Since 1983, when the federal gasoline tax was increased to 9¢ from 4¢ gal., traffic has increased nearly 20%, while the Gramm-Rudman-Hollings law and other cutbacks have squeezed annual federal highway expenditures to $11.8-billion in 1987, which is less than the $12.4-billion spent when the tax was 4¢ gal. and 10.5% less than highway expenditures in 1986.

The oil industry normally opposes motor fuel tax increases, most vehemently when there is any prospect the funds will be diverted to other than road uses. In 1987 eight state legislatures, including Montana in the West, passed laws to divert some highway revenues to other state programs. The others were Kansas, Louisiana, Minnesota, North Dakota, Oklahoma, South Carolina and Texas.

Tax exemptions for gasohol are often criticized for draining highway revenues although vehicles powered by gasohol cause the same wear on roads and bridges as those powered by gasoline. There are 14 states that give gasohol some tax exemption, but only three in the West: Alaska, Idaho and Washington. The others are Alabama, Iowa, Minnesota, Nebraska, New Jersey, New Mexico, South Carolina, South Dakota, Tennessee and Texas.

Motor-fuel tax increases are likely to continue to rise in relatively small increments in time, as they have since they started appearing in the early 1900s. The petroleum industry has been living with that.

There is an outside chance, however, of a turnabout in national thinking. Some people have proposed using high motor fuel taxes as a means of reducing the national debt. A 10¢ gal. increase in the gasoline tax would generate revenues of more than $10-billion annually. Such taxes, it is also argued, would lower gasoline consumption and reduce the United States dependence on foreign imports.

There is far from a consensus on the virtue of such legislation, but it is not beyond the pale of possibility if financial hard times come to this country.

Chevron Takes Action, Trims Smog, Traffic, Fuel

Chevron USA has decided to take its tank trucks off the roads during rush hours in the Los Angeles basin, reducing smog, traffic congestion and saving diesel fuel. The voluntary program was started in June, confining 60 trucks to terminals from 6 to 9 a.m. and 3 to 6 p.m. on weekdays.

Because of all the slow-and-go and stop-and-go driving forced on vehicles during rush hours, Chevron expects to reduce truck emissions by 20%, which amounts to nine tons in a year, and save more than 26,000 gal. of diesel fuel annually.

Chevron is also encouraging its suppliers, vendors, and contractors to do the same, reports Wally J. Fassler, regional vice president.

The trucks, dispatched from four distribution terminals in southern California, had been traveling 55,000 miles a month during the six rush hours.

Fassler notes that rush hour rescheduling during the 1984 summer Olympic games resulted in noticeably better air quality and traffic improvements. He expressed hope other companies would follow Chevron's lead.

NPN

NATIONAL PETROLEUM NEWS October 1988

Short-Term Forecast Anticipates Little Change This Year And Next

A revised government forecast says $1 per gal. gasoline (all grades and services) isn't in the cards in the foreseeable future unless the oil exporting countries curb crude production and stabilize global prices.

Prior projections had envisaged the buck-a-gallon motor fuel this past summer but then backed it off until next year. Now, the new forecast says gasoline prices will average 99¢ gal. next summer, then erode to 98¢ by the year's end. The annualized average will be 96¢ gal. in 1989, the same as in 1987. The 1988 average is expected to be 96¢ gal., down 2¢. Two consolations: retail margins will continue in the 12-13¢ range and consumption will be up modestly.

Heating oil retails may average out about 1-2¢ gal. less in 1989 than in 1988. Demand may be up about 100,000 b/d this year and 80,000 b/d next while margins will average perhaps a penny less than this year. They'll still be in a comfortable 30¢ range.

The key for what's ahead still hinges heavily on the actions of the OPEC countries. They were unable to agree on production curbs and price controls at several meetings earlier this year. Some countries increased crude output despite surpluses. This crushed hopes for $18-$20 bbl. crude by the end of this year.

Year End Forecast: Little Change In Anything

PROJECTIONS

	1988		1989			
	3Q	4Q	1Q	2Q	3Q	4Q
DEMAND (million b/d)						
Motor Gasoline	7.51	7.32	7.03	7.60	7.60	7.43
Leaded	1.51	1.40	1.29	1.18	1.05	0.95
Unleaded	6.00	5.91	5.74	6.41	6.55	6.48
% Unleaded	80%	81%	82%	84%	86%	87%
Distillates	2.79	3.25	3.51	3.00	2.85	3.31
Residual	1.13	1.17	1.35	1.17	1.07	1.14
TOTAL U.S. (a)	16.77	17.31	17.40	16.85	16.95	17.55
PRICES (¢ per gal.) (b)						
Motor Gasoline (c)	.94	.93	.92	.95	.99	.98
No. 2 Diesel Oil	.89	.89	.92	.94	.94	.94
No. 2 Heating Oil						
Wholesale	.45	.49	.52	.52	.51	.53
Retail	.73	.78	.82	.80	.78	.83
Residual (d)	.33	.39	.41	.38	.38	.41

ANNUALIZED COMPARISONS

				Percent Change		
	1987	1988	1989	87/86	88/87	89/88
DEMAND (million b/d)						
Motor Gasoline	7.21	7.29	7.42	2.6%	1.1%	1.8%
Leaded	1.74	1.43	1.12	(20.6)	(17.8)	(21.7)
Unleaded	5.47	5.87	6.30	12.0	7.3	7.3
% Unleaded	76%	81%	85%	—	—	—
Distillates	2.98	3.08	3.16	2.4	3.4	2.6
Residual	1.26	1.23	1.18	(11.3)	(2.4)	(4.1)
TOTAL U.S. (a)	16.67	16.98	17.19	2.4	1.9	1.2
PRICES (¢ per gal.) (b)						
Motor Gasoline (c)	.96	.94	.96	3.2	(2.1)	2.1
No. 2 Diesel Oil	.93	.91	.94	4.5	(2.2)	3.2
No. 2 Heating Oil						
Wholesale	.53	.49	.52	6.1	(7.5)	6.1
Retail	.80	.80	.81	(4.8)	.0	1.3
Residual (d)	.42	.35	.39	23 6	(16.7)	11.4

(a) Includes all other oils; (b) Includes federal and state taxes on all products except heating oil, which is not taxed; (c) Average for all grades and services; (d) Average for all grades of sulfur.

Source: Energy Information Administration, Short-Term Energy Outlook, dated July but published in August 1988.